

SEQUENCE LISTING

<110> Stanton, Lawrence W.
White, R. Tyler

<120> SECRETED FACTORS

<130> SCIOS.017A

<150> US 60/193,548

<151> 2000-03-31

<160> 70

<170> FastSEQ for Windows Version 4.0

<210> 1

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<212> DNA

<213> Rattus norvegicus

<220>

<221> CDS

<222> (195)...(674)

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cccactgtcc	ccgccacaca	ttaaacttga	tcctcctaca	cagacgcact	cggagcagag	180
cgcttataca	agcg	cac agc	cgt ctc	cgg cac	cgc cac	230

	His	Ser	Arg	Leu	Arg	His	Arg	His	Thr	Asp	Arg	*
	1				5					10		

tgc	cgc	ccc	gac	cga	cgg	cca	gcc	cca	gac	aca	acc	ttc	tga	aaa	cac	278
Cys	Arg	Pro	Asp	Arg	Arg	Pro	Ala	Pro	Asp	Thr	Thr	Phe	*	Lys	His	
		15					20							25		

aga	aaa	caa	gtc	cca	gcc	caa	gcg	gct	gca	tgt	gtc	caa	cat	ccc	ctt	326
Arg	Lys	Gln	Val	Pro	Ala	Gln	Ala	Ala	Ala	Cys	Val	Gln	His	Pro	Leu	
		30					35					40				

ccg	gtt	ccg	gga	tcc	aga	cct	ccg	aca	aat	gtt	tgg	cca	att	tgg	taa	374
Pro	Val	Pro	Gly	Ser	Arg	Pro	Pro	Thr	Asn	Val	Trp	Pro	Ile	Trp	*	
		45					50					55				

aat	att	aga	tgt	tga	aat	tat	ttt	taa	tga	gcg	ggg	ctc	gaa	ggg	att	422
Asn	Ile	Arg	Cys	*	Asn	Tyr	Phe	*	*	Ala	Gly	Leu	Glu	Gly	Ile	
		60								65					70	

tgg	ttt	cgt	aac	ttt	cga	aaa	tag	tgc	gga	tgc	gga	cag	ggc	gag	gga	470
Trp	Phe	Arg	Asn	Phe	Arg	Lys	*	Cys	Gly	Cys	Gly	Gln	Gly	Glu	Gly	
			75						80						85	

gaa	att	gca	cgg	tac	cgt	ggt	aga	ggg	ccg	taa	aat	cga	ggt	taa	taa	518
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Glu Ile Ala Arg Tyr Arg Gly Arg Gly Pro * Asn Arg Gly * *
 90 95

tgc gac agc acg cgt gat gac taa taa aaa ggc cgt gaa ccc cta cac 566
 Cys Asp Ser Thr Arg Asp Asp * * Lys Gly Arg Glu Pro Leu His
 100 105 110

caa tgg ctg gaa att aaa tcc agt tgt ggg cgc ggt cta cag ccc cga 614
 Gln Trp Leu Glu Ile Lys Ser Ser Cys Gly Arg Gly Leu Gln Pro Arg
 115 120 125

ctt cta tgc agg cac ggt gct gtt gtg cca ggc caa cca gga ggg atc 662
 Leu Leu Cys Arg His Gly Ala Val Val Pro Gly Gln Pro Gly Gly Ile
 130 135 140

ttc cat gta cag tggccccagt tcacttgtat atacttctgc aatgcctggc 714
 Phe His Val Gln
 145

tttccatattc cgcccgccac tgctgcagct gcataccgag gggctcacct tgcaggccgt 774
 ggtcgaccg tgtacaacac cttcagagct gcggcgcccc caccaccaat cccggcctat 834
 ggcggagtag tgtatcaaga gccagtgtat ggcaataaat tgctacaggg tggttacgct 894
 gcataccgct acgcccagcc caccctgcc actgctgctg cctacagtga cagttacgga 954
 cgagtttatg ctgccgaccc ctaccaccac acacttgctc cagccccac ctacggcggt 1014
 ggtgccatga atgcttttgc gcccttgacc gatgccaaaga ctaggagcca tgctgatgat 1074
 gtgggtctcg ttctttcttc attgcaggct agtatatacc aagggggata caaccgtttt 1134
 gctccatatt aaatgataaa accattaaac aaacaagcaa aaaacaaaac aaaaacaaaa 1194
 aaaccaacct tccaatgtgg ggagagagga agctttccga ggcccagtg ttgcgacaca 1254
 tgcagtagga catcacttta gcaactcaaa gaaacaacga aaaaaaaaaa aaaaaaaaaa 1314
 ataagcggcc gaaggggttc gctaga 1340

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 <212> PRT
 <213> Rattus norvegicus

<400> 2
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 20 25 30
 Gln Ala Ala Ala Cys Val Gln His Pro Leu Pro Val Pro Gly Ser Arg
 35 40 45
 Pro Pro Thr Asn Val Trp Pro Ile Trp Asn Ile Arg Cys Asn Tyr Phe
 50 55 60
 Ala Gly Leu Glu Gly Ile Trp Phe Arg Asn Phe Arg Lys Cys Gly Cys
 65 70 75 80
 Gly Gln Gly Glu Gly Glu Ile Ala Arg Tyr Arg Gly Arg Gly Pro Asn
 85 90 95
 Arg Gly Cys Asp Ser Thr Arg Asp Asp Lys Gly Arg Glu Pro Leu His
 100 105 110
 Gln Trp Leu Glu Ile Lys Ser Ser Cys Gly Arg Gly Leu Gln Pro Arg
 115 120 125
 Leu Leu Cys Arg His Gly Ala Val Val Pro Gly Gln Pro Gly Gly Ile
 130 135 140
 Phe His Val Gln
 145

<210> 3
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 <212> DNA
 <213> Rattus norvegicus

<220>
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 <222> (215)...(796)

<221> misc_feature
 <222> (1)...(867)
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 gcctgcctcg gtttaccctt cagcgtctgg tgaaatcccg cagcgtctag ggaaagatcc 180
 gttctgctcc gcgagggaaa cagagccgtt gacc atg gtt gca acg ggc agt ttg 235
 Met Val Ala Thr Gly Ser Leu
 1 5

agc agt aag aac acg gcc agc att tca gag ttg ctg gac ggt ggc tct 283
 Ser Ser Lys Asn Thr Ala Ser Ile Ser Glu Leu Leu Asp Gly Gly Ser
 10 15 20

cac cct ggg agt ctg cta agt gat ttc gac tac tgg gat tat gtc gtc 331
 His Pro Gly Ser Leu Leu Ser Asp Phe Asp Tyr Trp Asp Tyr Val Val
 25 30 35

cct gag ccc aac ctc aac gag gtg gtg ttt gaa gag aca aca tgc cag 379
 Pro Glu Pro Asn Leu Asn Glu Val Val Phe Glu Glu Thr Thr Cys Gln
 40 45 50 55

aat ttg gtt aaa atg ttg gag aac tgt ctg tcc aag tca aag caa acc 427
 Asn Leu Val Lys Met Leu Glu Asn Cys Leu Ser Lys Ser Lys Gln Thr
 60 65 70

aaa ctc ggt tgc tct aag gtc ctg gtt cct gag aaa ctg acc cag aga 475
 Lys Leu Gly Cys Ser Lys Val Leu Val Pro Glu Lys Leu Thr Gln Arg
 75 80 85

att gcc caa gat gtc ctg cgg ctc tca tcc aca gag ccc tgc ggc ctt 523
 Ile Ala Gln Asp Val Leu Arg Leu Ser Ser Thr Glu Pro Cys Gly Leu
 90 95 100

cgg ggc tgt gtt atg cac gtg aac ttg gaa att gaa aat gtg tgt aaa 571
 Arg Gly Cys Val Met His Val Asn Leu Glu Ile Glu Asn Val Cys Lys
 105 110 115

aag ctg gat agg att gtg tgt gat gct agt gtg gtg ccg acc ttt gag 619
 Lys Leu Asp Arg Ile Val Cys Asp Ala Ser Val Val Pro Thr Phe Glu
 120 125 130 135

ctc acg ctg gtg ttc aag cag gag agc tgc tcc tgg acc agc ctc aag 667
 Leu Thr Leu Val Phe Lys Gln Glu Ser Cys Ser Trp Thr Ser Leu Lys
 140 145 150

gag agt aag aac acg gcc agc att tca gag ttg ctg gac ggt ggc tct
 Ser Ser Lys Asn Thr Ala Ser Ile Ser Glu Leu Leu Asp Gly Gly Ser
 10 15 20
 cac cct ggg agt ctg cta agt gat ttc gac tac tgg gat tat gtc gtc
 His Pro Gly Ser Leu Leu Ser Asp Phe Asp Tyr Trp Asp Tyr Val Val
 25 30 35
 cct gag ccc aac ctc aac gag gtg gtg ttt gaa gag aca aca tgc cag
 Pro Glu Pro Asn Leu Asn Glu Val Val Phe Glu Glu Thr Thr Cys Gln
 40 45 50 55
 aat ttg gtt aaa atg ttg gag aac tgt ctg tcc aag tca aag caa acc
 Asn Leu Val Lys Met Leu Glu Asn Cys Leu Ser Lys Ser Lys Gln Thr
 60 65 70
 aaa ctc ggt tgc tct aag gtc ctg gtt cct gag aaa ctg acc cag aga
 Lys Leu Gly Cys Ser Lys Val Leu Val Pro Glu Lys Leu Thr Gln Arg
 75 80 85
 att gcc caa gat gtc ctg cgg ctc tca tcc aca gag ccc tgc ggc ctt
 Ile Ala Gln Asp Val Leu Arg Leu Ser Ser Thr Glu Pro Cys Gly Leu
 90 95 100
 cgg ggc tgt gtt atg cac gtg aac ttg gaa att gaa aat gtg tgt aaa
 Arg Gly Cys Val Met His Val Asn Leu Glu Ile Glu Asn Val Cys Lys
 105 110 115
 aag ctg gat agg att gtg tgt gat gct agt gtg gtg ccg acc ttt gag
 Lys Leu Asp Arg Ile Val Cys Asp Ala Ser Val Val Pro Thr Phe Glu
 120 125 130 135
 ctc acg ctg gtg ttc aag cag gag agc tgc tcc tgg acc agc ctc aag
 Leu Thr Leu Val Phe Lys Gln Glu Ser Cys Ser Trp Thr Ser Leu Lys
 140 145 150

gac ttc ttc ttt agc gga ggt cgc ttc tcg tcg ggc ctt aag cga act	715
Asp Phe Phe Phe Ser Gly Gly Arg Phe Ser Ser Gly Leu Lys Arg Thr	
155 160 165	

ctg atc ctc agc tcg gga ttt cga ctt gtt aag aaa aaa ctg tac tct	763
Leu Ile Leu Ser Ser Gly Phe Arg Leu Val Lys Lys Lys Leu Tyr Ser	
170 175 180	

ctg att gga acg aca gtc att gag gag tgc tga ggaggaaaaa acaattaaag	816
Leu Ile Gly Thr Thr Val Ile Glu Glu Cys *	
185 190	

gtccctaattg agtggctaac aaaaaaaaaa nnnnnnnnnnn nnnnnngcggc c	867
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<210> 4
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 <212> PRT
 <213> Rattus norvegicus

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Asp Tyr Trp Asp Tyr Val Val Pro Glu Pro Asn Leu Asn Glu Val Val	
35 40 45	
Phe Glu Glu Thr Thr Cys Gln Asn Leu Val Lys Met Leu Glu Asn Cys	
50 55 60	
Leu Ser Lys Ser Lys Gln Thr Lys Leu Gly Cys Ser Lys Val Leu Val	
65 70 75 80	
Pro Glu Lys Leu Thr Gln Arg Ile Ala Gln Asp Val Leu Arg Leu Ser	
85 90 95	
Ser Thr Glu Pro Cys Gly Leu Arg Gly Cys Val Met His Val Asn Leu	
100 105 110	
Glu Ile Glu Asn Val Cys Lys Lys Leu Asp Arg Ile Val Cys Asp Ala	
115 120 125	
Ser Val Val Pro Thr Phe Glu Leu Thr Leu Val Phe Lys Gln Glu Ser	
130 135 140	
Cys Ser Trp Thr Ser Leu Lys Asp Phe Phe Phe Ser Gly Gly Arg Phe	
145 150 155 160	
Ser Ser Gly Leu Lys Arg Thr Leu Ile Leu Ser Ser Gly Phe Arg Leu	
165 170 175	
Val Lys Lys Lys Leu Tyr Ser Leu Ile Gly Thr Thr Val Ile Glu Glu	
180 185 190	
Cys	

<210> 5
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 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> CDS
 <222> (42)...(752)

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Met Lys Ala Leu Arg
1 5

gct gtc ctc ctg atc ttg cta ctc agt gga cag cca ggg agc agc tgg 104
Ala Val Leu Leu Ile Leu Leu Leu Ser Gly Gln Pro Gly Ser Ser Trp
10 15 20

gca caa gaa gct ggc gat gtg gac ctg gag cta gag cgc tac agc tac 152
Ala Gln Glu Ala Gly Asp Val Asp Leu Glu Leu Glu Arg Tyr Ser Tyr
25 30 35

gat gat gac ggt gat gac gat gat gac gat gat gaa gaa gag gaa gag 200
Asp Asp Asp Gly Asp Asp Asp Asp Asp Asp Asp Glu Glu Glu Glu Glu
40 45 50

gag gag acc aac atg atc cct ggc agc agg gac aga gca ccg cct cta 248
Glu Glu Thr Asn Met Ile Pro Gly Ser Arg Asp Arg Ala Pro Pro Leu
55 60 65

cag tgc tac ttc tgc caa gtg ctt cac agc ggg gag agc tgc aac gag 296
Gln Cys Tyr Phe Cys Gln Val Leu His Ser Gly Glu Ser Cys Asn Glu
70 75 80 85

aca cag aga tgc tcc agc agc aag ccc ttc tgt atc aca gtc atc tcc 344
Thr Gln Arg Cys Ser Ser Ser Lys Pro Phe Cys Ile Thr Val Ile Ser
90 95 100

cat ggc aaa act gac aca ggt gtc ctg acg acc tac tcc atg tgg tgt 392
His Gly Lys Thr Asp Thr Gly Val Leu Thr Thr Tyr Ser Met Trp Cys
105 110 115

act gat acc tgc cag ccc atc gtg aag aca gtg gac agc acc caa atg 440
Thr Asp Thr Cys Gln Pro Ile Val Lys Thr Val Asp Ser Thr Gln Met
120 125 130

acc cag acc tgt tgc cag tcc aca ctc tgc aat att cca ccc tgg cag 488
Thr Gln Thr Cys Cys Gln Ser Thr Leu Cys Asn Ile Pro Pro Trp Gln
135 140 145

agc ccc caa atc cac aac cct ctg ggt ggc cgg gca gac agc ccc ttg 536
Ser Pro Gln Ile His Asn Pro Leu Gly Gly Arg Ala Asp Ser Pro Leu
150 155 160 165

aag ggt ggg acc aga cat cct caa ggt gac agg ttt agc cac ccc cag 584
Lys Gly Gly Thr Arg His Pro Gln Gly Asp Arg Phe Ser His Pro Gln
170 175 180

gtt gtc aag gtt act cat cct cag agt gat ggg gct cac ttg tct aag 632
Val Val Lys Val Thr His Pro Gln Ser Asp Gly Ala His Leu Ser Lys
185 190 195

ggt ggc aag gct aac cag ccc cag gga aat ggg gcc gga ttc cct gca 680
Gly Gly Lys Ala Asn Gln Pro Gln Gly Asn Gly Ala Gly Phe Pro Ala
200 205 210

ggc tgg agc aaa ttt ggt aac gta gtt ctc ctg ctc acc ttc ctc acc 728
 Gly Trp Ser Lys Phe Gly Asn Val Val Leu Leu Leu Thr Phe Leu Thr
 215 220 225

agt ctg tgg gca tca ggg gcc taa agactcgtcc tcccccaacc aggacccttc 782
 Ser Leu Trp Ala Ser Gly Ala *
 230 235

agcctttcct ccttgacaac cagcttcaga gaataaactt gaatgtcttt tgccatctaa 842
 aaaaaaaaaa aaaaaaaaaa aaagcggccg cc 874

<210> 6
 <211> 236
 <212> PRT
 <213> Rattus norvegicus

<400> 6
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 Pro Gly Ser Ser Trp Ala Gln Glu Ala Gly Asp Val Asp Leu Glu Leu
 20 25 30
 Glu Arg Tyr Ser Tyr Asp Asp Asp Gly Asp Asp Asp Asp Asp Asp Asp
 35 40 45
 Glu Glu Glu Glu Glu Glu Glu Thr Asn Met Ile Pro Gly Ser Arg Asp
 50 55 60
 Arg Ala Pro Pro Leu Gln Cys Tyr Phe Cys Gln Val Leu His Ser Gly
 65 70 75 80
 Glu Ser Cys Asn Glu Thr Gln Arg Cys Ser Ser Ser Lys Pro Phe Cys
 85 90 95
 Ile Thr Val Ile Ser His Gly Lys Thr Asp Thr Gly Val Leu Thr Thr
 100 105 110
 Tyr Ser Met Trp Cys Thr Asp Thr Cys Gln Pro Ile Val Lys Thr Val
 115 120 125
 Asp Ser Thr Gln Met Thr Gln Thr Cys Cys Gln Ser Thr Leu Cys Asn
 130 135 140
 Ile Pro Pro Trp Gln Ser Pro Gln Ile His Asn Pro Leu Gly Gly Arg
 145 150 155 160
 Ala Asp Ser Pro Leu Lys Gly Gly Thr Arg His Pro Gln Gly Asp Arg
 165 170 175
 Phe Ser His Pro Gln Val Val Lys Val Thr His Pro Gln Ser Asp Gly
 180 185 190
 Ala His Leu Ser Lys Gly Gly Lys Ala Asn Gln Pro Gln Gly Asn Gly
 195 200 205
 Ala Gly Phe Pro Ala Gly Trp Ser Lys Phe Gly Asn Val Val Leu Leu
 210 215 220
 Leu Thr Phe Leu Thr Ser Leu Trp Ala Ser Gly Ala
 225 230 235

<210> 7
 <211> 817
 <212> DNA
 <213> Rattus norvegicus

<220>
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 <222> (135)...(320)

<221> misc_feature

<222> (1)...(817)

<223> n = A,T,C or G

<400> 7

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gagctgcccc acagctctga ctgtggactg agggatgtta ggcggatcac ctgagcctcc      120
agaggctcac acta atg agc ggg cgc tct ctt ctt agc cac tgt tgc att      170
          Met Ser Gly Arg Ser Leu Leu Ser His Cys Cys Ile
                1             5             10
```

```
tgg ttt tca ttg act cct ggg cct cgt ttg agt gac act gtc ctt gtc      218
Trp Phe Ser Leu Thr Pro Gly Pro Arg Leu Ser Asp Thr Val Leu Val
          15             20             25
```

```
ttt tgt ttc aga gct ctc cca gtg tta gtg gac tca gat gag gaa att      266
Phe Cys Phe Arg Ala Leu Pro Val Leu Val Asp Ser Asp Glu Glu Ile
          30             35             40
```

```
atg acc aga tct gaa ata gct gaa aaa atg ttc tct tca gaa aag ata      314
Met Thr Arg Ser Glu Ile Ala Glu Lys Met Phe Ser Ser Glu Lys Ile
          45             50             55             60
```

```
atg tga tcagggcccc agtgggtcca gtgtgcatgg gagcgcggtc aggtgatggg      370
Met *
```

```
aaaggcctgg ctctcgtcaa aactgacagc tgcgctatga tacatgtctc actttgttgt      430
cttggagatc tgtgtatgca ggtgaagaac tcaagtgtgg gagggctctgc cgcctcagaa      490
agccatcttt gaaacggact cataaagtca gttttgttgc cattaagttg cctgattttg      550
gaaacaattht aagaagtgtt aaagacatgt gttcagatgc ctcttaggcg gcagccacag      610
gcatgccagg ttgtgtccct cagttttctc cagacaaaag aatctgcagc tgggcgtggc      670
ggcacactac tggcagttga aagtctgtaa tttcaaggcc aagcctggtc tacatagttc      730
caggacaacc agagagatct acatagttag accctgcctc aaaacacaga aaccnnanna      790
naaaaaaaaa aaaaaaaaaa cggccgc      817
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<210> 8

<211> 61

<212> PRT

<213> Rattus norvegicus

<400> 8

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Met Ser Gly Arg Ser Leu Leu Ser His Cys Cys Ile Trp Phe Ser Leu
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Thr Pro Gly Pro Arg Leu Ser Asp Thr Val Leu Val Phe Cys Phe Arg
          20             25             30
Ala Leu Pro Val Leu Val Asp Ser Asp Glu Glu Ile Met Thr Arg Ser
          35             40             45
Glu Ile Ala Glu Lys Met Phe Ser Ser Glu Lys Ile Met
          50             55             60
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<210> 9

<211> 755

<212> DNA

<213> Rattus norvegicus

<220>

<221> CDS
<222> (139)...(378)

<221> misc_feature
<222> (1)...(755)
<223> n = A,T,C or G

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atgaggctgg ttactcagca ggagtagctg agctgagctg gccctggagg ccctggaggc 120
cctggagtag ggcccagg atg cag gtg cta atg tct atc ccc ggc gct ctt 171
Met Gln Val Leu Met Ser Ile Pro Gly Ala Leu
1 5 10
ctt ccc gac tct acc atg gga tgt aac tcc agg agc ccc tgc cat ctc 219
Leu Pro Asp Ser Thr Met Gly Cys Asn Ser Arg Ser Pro Cys His Leu
15 20 25
ccg tac caa aag act gtg gct tcc gtg tct act cag aaa tca gtt cta 267
Pro Tyr Gln Lys Thr Val Ala Ser Val Ser Thr Gln Lys Ser Val Leu
30 35 40
ctt cgt aaa cag tgt tta aaa cca gac tca ttt aat cag agt gaa gga 315
Leu Arg Lys Gln Cys Leu Lys Pro Asp Ser Phe Asn Gln Ser Glu Gly
45 50 55
ttg cag tcc att ggc ttc tta gca cag aag cag ctg ata aca caa gta 363
Leu Gln Ser Ile Gly Phe Leu Ala Gln Lys Gln Leu Ile Thr Gln Val
60 65 70 75
aac ccc agc cct tga gaggtagaag caagaggatc agaggttcaa gcgcatacctc 418
Asn Pro Ser Pro *
ggctccatca caagttcaaaa agccgcctgc accaaatggg agtccttgct tcaaaaaaaaa 478
aaaaaaaaaa agcaaaagaaa gcaaaggact cgatgacatg atttatagac aaaagcagtg 538
ggagaaaata ctaaaagcccc actgagctgc cagccagggtg tctgtgacta caggctctttt 598
atctgctcat atatattttt acaaaaaaatg aaattcatat tggtcgctat tttgctggct 658
gctttgctcc cgatcaacat gatttgcacg ttttttccat caataaatgt gccatgatat 718
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<210> 10
<211> 79
<212> PRT
<213> Rattus norvegicus

<400> 10
Met Gln Val Leu Met Ser Ile Pro Gly Ala Leu Leu Pro Asp Ser Thr
1 5 10 15
Met Gly Cys Asn Ser Arg Ser Pro Cys His Leu Pro Tyr Gln Lys Thr
20 25 30
Val Ala Ser Val Ser Thr Gln Lys Ser Val Leu Leu Arg Lys Gln Cys
35 40 45
Leu Lys Pro Asp Ser Phe Asn Gln Ser Glu Gly Leu Gln Ser Ile Gly
50 55 60
Phe Leu Ala Gln Lys Gln Leu Ile Thr Gln Val Asn Pro Ser Pro
65 70 75

<210> 11
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<212> DNA
<213> Rattus norvegicus

<220>
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<222> (68)...(346)

<221> misc_feature
<222> (1)...(806)
<223> n = A,T,C or G

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cgccgtg atg tcg acc gca atg aac ttc ggg acc aaa agc ttc cag ccg 109
Met Ser Thr Ala Met Asn Phe Gly Thr Lys Ser Phe Gln Pro
1 5 10

cgg ccc cca gac aaa ggc agc ttc ccg cta gac cac ttc ggt gag tgt 157
Arg Pro Pro Asp Lys Gly Ser Phe Pro Leu Asp His Phe Gly Glu Cys 30
15 20 25

aaa agc ttt aag gaa aaa ttc atg aag tgt ctc cgc gac aag aac tat 205
Lys Ser Phe Lys Glu Lys Phe Met Lys Cys Leu Arg Asp Lys Asn Tyr 45
35 40

gaa aat gct ctg tgc aga aat gaa tct aaa gag tat tta atg tgc agg 253
Glu Asn Ala Leu Cys Arg Asn Glu Ser Lys Glu Tyr Leu Met Cys Arg 60
50 55

atg caa agg cag ctg atg gca cca gaa cca cta gag aaa ctc ggc ttt 301
Met Gln Arg Gln Leu Met Ala Pro Glu Pro Leu Glu Lys Leu Gly Phe 75
65 70

aga gac ata atg gag gag aaa ccg gag gca aag gac aaa tgt tga 346
Arg Asp Ile Met Glu Glu Lys Pro Glu Ala Lys Asp Lys Cys * 90
80 85

gaatcactgg gctgtgtccc cctacctgga gcagagctga gcccttctgc ccaccgtgga 406
gagagctgag ccattctgtg ctgcccagag gaggggctct ccgtgtcgac tttggctcat 466
ccctgcagca cagaccaaac tgctttctct actgaccaca ctctgcttc agagagnggt 526
ttctcctgtc tgngtgtggc acaggatctg ctcanngctg aacctgatg tgatatgata 586
tcccacctag tgtggccgca caccaaaagg cctggacagg atttcacagt gactcaacct 646
gagtcctcac acccggaacc tgtcagcgaa aaccaancca agcaaaatgn ctggcttttg 706
gcttacaaac cccatnattt gntttccctt ctcttggtgc tttgttttga caaanctggc 766
atacaaagtn ggaaggggga aataaaaaaa aaaaaaaaaa 806

<210> 12
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<212> DNA
<213> Rattus norvegicus

<220>
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<222> (260)...(520)

<221> misc_feature
 <222> (1)...(717)
 <223> n = A,T,C or G

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 cctgatagtc tacttcgccca acgcagcgca cagcgaggcc tgtaagaacg ggttgcggtt 180
 gcaggatgag tgccgaaaca ccacgcacct gttgaagcac cagctnaccg gcgccagga 240
 cagcctgctg cagacggag atg cag gca aac tcc tgc aac cag acc gtg atg 292
 Met Gln Ala Asn Ser Cys Asn Gln Thr Val Met
 1 5 10

gac ctt cgg gat tcc ctg aag aag aag gtg tct naa acc cag gag caa 340
 Asp Leu Arg Asp Ser Leu Lys Lys Lys Val Ser Xaa Thr Gln Glu Gln
 15 20 25

can gcc cgc atc aag gaa ctt gag aat aag atc gag agg ctg aac caa 388
 Xaa Ala Arg Ile Lys Glu Leu Glu Asn Lys Ile Glu Arg Leu Asn Gln
 30 35 40

gag ctg gag aaa ttt gag gac cca aaa gga aat ttc tac cac agt gca 436
 Glu Leu Glu Lys Phe Glu Asp Pro Lys Gly Asn Phe Tyr His Ser Ala
 45 50 55

ngt gaa ctc aag cgg gtt cgt ggt ggn ctt can cct act tgt gct ttg 484
 Xaa Glu Leu Lys Arg Val Arg Gly Gly Leu Xaa Pro Thr Cys Ala Leu
 60 65 70 75

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 Trp Arg Asp Cys Ser Xaa Leu Phe Xaa Thr Gln *
 80 85

caaacctgtg taggcattgn nggtngtaat ggcttttgag ggggtcctgg cacccttaag 590
 atgtgaanac cattangnng gacccaaaat gnnttttctt gntttgaact ggggcggacc 650
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Met Lys Met Asn Pro Gly Asp Lys Asp Lys Met Leu Leu Phe Ser Pro	
5 10 15	

ccc ttt gac ccc tgt ctt cta agg cat cta gga agg aac cag tgt cct	154
Pro Phe Asp Pro Cys Leu Leu Arg His Leu Gly Arg Asn Gln Cys Pro	
20 25 30	

tgg tac tga tttacttaga ttcaacctaa ggggtccagcc actgactaag	203
Trp Tyr *	
35	

gccaaaggcca tttttccata cctgggaggg tagagattca gggttgtggg taagtgggca	263
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aattctgaaa tgtacttgta tgaagaaact gttatctgaa acctaactta aatgggcatc	383
ctgccttttg tctgggtgaga aatgaaagtg atctacaata agtgtcaaag caacaaggcc	443
cctctggata tgtctaggcc aggatgagga tactaagtgc cttcaaagcg agagggaggc	503
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gatccctgag gcaccacagc cacaacttgt gtaggcctgg cccaggtcag tgaatagggt	623
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gttatgaatc ataatgtaaa tatttttttg agctagaggt ttaccaaggg gggtgtgagc	803
cataggttga aaaccattgt tctaggaata gctccagggg tggtttctga ggcccccgca	863
aggtgggatc tatggggcag gggtggatct tctccaagag cccccaacag gatatatata	923
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gccagtgtg agaacatgag aaacatttaa tgagtatttg tttgttaaata aatattta	358
taa cgg cta gaa tgg cag aca cac atg gta gca cat gat ggt gat ttt	406
* Arg Leu Glu Trp Gln Thr His Met Val Ala His Asp Gly Asp Phe	
1 5 10 15	

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Arg Gly Pro Phe Val Cys Ser Glu Leu Val Ile Ser Ala Gly Trp Phe	
20 25 30	

gct ttg cct ggt ctg gga cta acc tca cat ttt ctc act ctt gct ttc	502
Ala Leu Pro Gly Leu Gly Leu Thr Ser His Phe Leu Thr Leu Ala Phe	

35 40 45
 cga gag att agt cat cct tcc tgt cct act ggg ctc tcg ata gcg ctc 550
 Arg Glu Ile Ser His Pro Ser Cys Pro Thr Gly Leu Ser Ile Ala Leu
 50 55 60
 atc agc ata ctg cat ttc aat ccc agc gaa ggg gtt cgc cga agg ggt 598
 Ile Ser Ile Leu His Phe Asn Pro Ser Glu Gly Val Arg Arg Arg Gly
 65 70 75
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 atctgtctcg gctgaattac tctcaccggt ttccattctg tgtgcaccag aaatctgaga 180
 tccaggagta tcaacagcaa ag atg tct aat gag cca ccc cct cct tat cca 232
 Met Ser Asn Glu Pro Pro Pro Pro Tyr Pro
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 gga ggg cct aca gcc cca cta ctg gag gaa aaa agt gga gcc cca cat 280
 Gly Gly Pro Thr Ala Pro Leu Leu Glu Glu Lys Ser Gly Ala Pro His
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 Thr Pro Gly Arg Thr Phe Pro Ala Val Met Gln Pro Pro Pro Gly Met
 30 35 40
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 Pro Leu Pro Ser Val Asp Ile Ala Pro Pro Pro Tyr Glu Pro Pro Gly
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 cat cca ggg cct aag cct ggt ttw atg ccc ccc acn tta cca cac att 424
 His Pro Gly Pro Lys Pro Gly Xaa Met Pro Pro Thr Leu Pro His Ile
 60 65 70
 cna ana acc ttn ntn tgt aaa agt taa ataanaangg agggattcga 471
 Xaa Xaa Thr Xaa Xaa Cys Lys Ser *
 75 80
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 aaaaaagggg ggcccc 607

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ccc tta atg att gcg gaa gaa aaa tac aga caa caa agg gaa gag ctt 101
 Pro Leu Met Ile Ala Glu Glu Lys Tyr Arg Gln Gln Arg Glu Glu Leu
 10 15 20

gag aaa cag aga cgg gag agt tct tgc cat agc atc atc aaa aca gaa 149
 Glu Lys Gln Arg Arg Glu Ser Ser Cys His Ser Ile Ile Lys Thr Glu
 25 30 35

acc cag cac cgc agc tta tca gag aaa gag aaa gaa aca gag tta caa 197
 Thr Gln His Arg Ser Leu Ser Glu Lys Glu Lys Glu Thr Glu Leu Gln
 40 45 50

aaa gca gct gag gca atg tcc act ccc aga aag gat tca gac ttc act 245
 Lys Ala Ala Glu Ala Met Ser Thr Pro Arg Lys Asp Ser Asp Phe Thr
 55 60 65 70

agg gca cag ccc aac ctg gaa cct aaa agc aag gct gtg atc gcc agt 293
 Arg Ala Gln Pro Asn Leu Glu Pro Lys Ser Lys Ala Val Ile Ala Ser
 75 80 85

gaa tgc tct gaa agc cag ctc tct aca gct tcc gca ttg aca gtc gct 341
 Glu Cys Ser Glu Ser Gln Leu Ser Thr Ala Ser Ala Leu Thr Val Ala
 90 95 100

acc gag agg ctc cag cat gtt cta gcc gct tca gac gat aag ctt acc 389
 Thr Glu Arg Leu Gln His Val Leu Ala Ala Ser Asp Asp Lys Leu Thr
 105 110 115

ctg cga cgg gaa ggc aca cag aac tca agt gac acc cta caa tcg aaa 437
 Leu Arg Arg Glu Gly Thr Gln Asn Ser Ser Asp Thr Leu Gln Ser Lys
 120 125 130

aca gct tgt gag att aac cag agt cac aag gaa tgt agg aca gag caa 485
 Thr Ala Cys Glu Ile Asn Gln Ser His Lys Glu Cys Arg Thr Glu Gln
 135 140 145 150

gag cag cac cgc agc tta tca gag aaa gag aaa gaa aca gag tta caa
 Thr Gln His Arg Ser Leu Ser Glu Lys Glu Lys Glu Thr Glu Leu Gln
 40 45 50

aca ttt gag caa cac gtg gag aag ttg ccc ttc ccc caa acc aaa ccc	533
Thr Phe Glu Gln His Val Glu Lys Leu Pro Phe Pro Gln Thr Lys Pro	
155 160 165	
att tcc ccg agt ttc aaa gtg aaa act atc agg ctt cca gct cta gat	581
Ile Ser Pro Ser Phe Lys Val Lys Thr Ile Arg Leu Pro Ala Leu Asp	
170 175 180	
cat acg ctg act gaa aca gat ctc agt tct gaa cgc cgc gta aag caa	629
His Thr Leu Thr Glu Thr Asp Leu Ser Ser Glu Arg Arg Val Lys Gln	
185 190 195	
tcc gaa att gac gtt caa acc agt act aaa gaa atg aat aag gaa att	677
Ser Glu Ile Asp Val Gln Thr Ser Thr Lys Glu Met Asn Lys Glu Ile	
200 205 210	
aag aaa acc gaa gtg agc aca cag tgt gat aat aag caa tct gtg gct	725
Lys Lys Thr Glu Val Ser Thr Gln Cys Asp Asn Lys Gln Ser Val Ala	
215 220 225 230	
gaa aaa tat ttt caa tta cct aaa aca gag aaa cgg gtg acg gta caa	773
Glu Lys Tyr Phe Gln Leu Pro Lys Thr Glu Lys Arg Val Thr Val Gln	
235 240 245	
atg ccc aaa gac tat gca gcg aaa agt cat caa agc aaa ctc caa aca	821
Met Pro Lys Asp Tyr Ala Ala Lys Ser His Gln Ser Lys Leu Gln Thr	
250 255 260	
gtt ccc aag aag cat gga gga ttg ggg gag ttt gac aga ggg aat gtc	869
Val Pro Lys Lys His Gly Gly Leu Gly Glu Phe Asp Arg Gly Asn Val	
265 270 275	
ctg ggg agg gaa gga aaa aat cag gac tcc tcc atg agc agt aca aaa	917
Leu Gly Arg Glu Gly Lys Asn Gln Asp Ser Ser Met Ser Ser Thr Lys	
280 285 290	
gaa agc agg gta ata gtt gaa aga aag caa gaa cat cta cag gac cag	965
Glu Ser Arg Val Ile Val Glu Arg Lys Gln Glu His Leu Gln Asp Gln	
295 300 305 310	
agc gta cca agg tta gtc caa caa aag att atc ggt gaa agc ctg gac	1013
Ser Val Pro Arg Leu Val Gln Gln Lys Ile Ile Gly Glu Ser Leu Asp	
315 320 325	
tca cgg gtt cag aat ttt cag cag aca caa aca caa act tct agg att	1061
Ser Arg Val Gln Asn Phe Gln Gln Thr Gln Thr Gln Thr Ser Arg Ile	
330 335 340	
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Glu His Lys Glu Leu Ser Gln Pro Tyr Ser Glu Lys Lys Cys Leu Arg	
345 350 355	
gac aag gac aaa caa caa aaa cag gtc tcc tct aac act gac gat tca	1157
Asp Lys Asp Lys Gln Gln Lys Gln Val Ser Ser Asn Thr Asp Asp Ser	
360 365 370	
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 100
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 Ser Gln Gln Asp Gly Glu Lys Cys Ala Ile Lys Ile Leu Glu Phe Leu
 395 400 405

 aga aaa cgt gaa gaa cta cag cag att ttg tct agg gta aaa cag ttt 1301
 Arg Lys Arg Glu Glu Leu Gln Gln Ile Leu Ser Arg Val Lys Gln Phe
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 425 430 435

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 Asn Ile Ala Pro Val Trp Leu Ile Ser Glu Glu Lys Arg Glu Tyr Gly
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 ag atg gct tct gca gag tca ggt gaa gac cca agt cat gtg gtt ggg 287
 Met Ala Ser Ala Glu Ser Gly Glu Asp Pro Ser His Val Val Gly
 1 5 10 15

 gaa acg cct cct ttg acc ttg cca gcc aac ctc caa acc ctg cat ccg 335
 Glu Thr Pro Pro Leu Thr Leu Pro Ala Asn Leu Gln Thr Leu His Pro
 20 25 30

 aac aga cca acg ttg agt cca gag aga aaa ctt gaa tgg aat aac gac 383

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 35 40 45
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 gcg gga tct gcc ctc aac tgg cgg gaa caa gaa ggc aag gaa gta tgg 149
 Ala Gly Ser Ala Leu Asn Trp Arg Glu Gln Glu Gly Lys Glu Val Trp
 1 5 10
 gat tac gtg act gtt cga gag gat gca cgc atg ttc tgg tgg ctc tac 197
 Asp Tyr Val Thr Val Arg Glu Asp Ala Arg Met Phe Trp Trp Leu Tyr
 -15 - 20 25 30
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 Tyr Ala Thr Asn Pro Cys Lys Asn Phe Ser Glu Leu Pro Leu Val Met
 35 40 45
 tgg ctt cag ggt ggt cca ggt ggt tct agc act gga ttt gga aac ttt 293
 Trp Leu Gln Gly Gly Pro Gly Gly Ser Ser Thr Gly Phe Gly Asn Phe
 50 55 60
 gag gaa atc ggc cct ctt gac acc cga ctc aag cca cgg aac act acc 341

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gacggggtaa	acttctataa	catcttaact	aaaagcacc	cgcacacctc	tatggagtgc	879
agcctcgagt	tcttcggag	ccccttagtt	cgtctctgtc	agcgccacgt	gagacaccta	939
caaggagacg	ccttaagtca	gctcatgaac	ggccccatca	aaaagaagct	caaaattatc	999
cctgacgacg	tctcctgggg	agcccagtcg	tcttcggtct	tcataagcat	ggaagaggac	1059
ttcatgaagc	ctgtcatcga	catcgtggat	acgttgctgg	aactcggggg	caatgtgact	1119
gtgtacaatg	ggcagctgga	tctcattgtg	gacaccatag	gtcaggagtc	ctgggttcag	1179
aagctgaagt	ggccacagct	gtccagattc	aatcagctaa	aatggaaggc	cctgtacacc	1239
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tggatcctaa	aggcgggtca	catggttcct	gctgaccaag	gggacatggc	tctgaagatg	1359
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tccgtgtcta	ctcagaaatc	agttctactt	cgtaaacagt	gtttaaaacc	agactcattt	1599
aatcagaagt	aaqqattgca	gtccattggc	ttcttaqcac	agaagcagct	gataacacaa	1659

gtaaacccca gcccttgaga ggtagaagca agaggatcag aggttcaagc gcatacctcgg 1719
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aaaaaaaaaa aaaaagcggc cgc 1802

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<213> Rattus norvegicus

<220>
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1 5 10 15
Leu Leu Glu Glu Lys Ser Gly Ala Pro His Thr Pro Gly Arg Thr Phe
20 25 30
Pro Ala Val Met Gln Pro Pro Pro Gly Met Pro Leu Pro Ser Val Asp
35 40 45
Ile Ala Pro Pro Pro Tyr Glu Pro Pro Gly His Pro Gly Pro Lys Pro
50 55 60
Gly Xaa Met Pro Pro Thr Leu Pro His Ile Xaa Xaa Thr Xaa Xaa Cys
65 70 75 80
Lys Ser.

<210> 22
<211> 630
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(630)
<223> n = A,T,C or G

<221> CDS
<222> (91)...(183)

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tacctcaggg ctgtgagaac ggcactcctg atg tct gag aaa gag aaa caa gat 114
Met Ser Glu Lys Glu Lys Gln Asp
1 5

tgg ctg aag gat cct ccg ttc ctt cag aga cct ggg tgg aga gca tta 162
Trp Leu Lys Asp Pro Pro Phe Leu Gln Arg Pro Gly Trp Arg Ala Leu
10 15 20

ggg aca cga aga aca gag tag cggaagaaga gttcttaagt aataagttta 213
Gly Thr Arg Arg Thr Glu *
25 30

cctcctgact ggctcacatc actgccttac tctgtagaaa gcaggtcac tcattggattt 273
ccccctccca cccccccagc tggatcattt tttgactcag ggaaaataat taaattattg 333

tccaactggt	agtgttgatc	ggtaacagca	gaaaggcaga	aagttcctga	taatctcaat	393
attatctttt	caaaaagtatt	ttcctggaat	gttgtttgct	ttggcattac	aaagttctgt	453
actcttaaaa	atattttgac	ttgctgggca	tgagggtcac	acctttaatc	cagaggcagg	513
catggatcca	caggagttca	aggccgcctg	gctacaaagc	gagttcaagg	gcagccaggg	573
ctacacagag	agacctgtgc	tcntnaccnn	tnannaaaaa	acnaaaaagc	cggccgc	630

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 <212> DNA
 <213> Rattus norvegicus

<220>
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 <222> (113)...(232)

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gcttggcatt tcaacgtgct tcttaaataa ctgttttatt agtcagtaca ag atg ctt	118
	Met Leu
	1

tgt ata tca gat ctg aaa tat ctt aaa att atc act tgc att gta aat	166
Cys Ile Ser Asp Leu Lys Tyr Leu Lys Ile Ile Thr Cys Ile Val Asn	
5 10 15	

tac tat tcc ttt cgc aga aat aat gaa tgc ttc aag aaa aaa aaa agc	214
Tyr Tyr Ser Phe Arg Arg Asn Asn Glu Cys Phe Lys Lys Lys Lys Ser	
20 25 30	

tgt ttg tat tgg gtt taa aacgtttcca aacaccaatt attctttact	262
Cys Leu Tyr Trp Val *	
35	

taagtcatcc gatctagtta ttaaattatt attactgcct tcacactatc aaagatggta	322
aatatctgat agaatcatat tcaaaatact tctgtttcac atttcttgag aaagtactga	382
ctgtctgagt tcttttctcaa gaaatgtgaa acagaagtat tttgaatcga aggggttcgc	442
tag	445

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 <211> 273
 <212> DNA
 <213> Rattus norvegicus

<220>
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gggccagaca gtgtcataga attaaactttt catttctgta ttaatttttag gactgcaaaa	120
atcccaaagc tgtatactta gattggattc aataaaaaag ttaagtttac tnaaaaaaaa	180
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaagc	240
aaaaaaaaaa ncggnncnnaa aaaagngngc cgc	273

<210> 25
 <211> 170

<212> PRT

<213> Rattus norvegicus

<400> 25

Met Ala Ser Ala Glu Ser Gly Glu Asp Pro Ser His Val Val Gly Glu
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Thr Pro Pro Leu Thr Leu Pro Ala Asn Leu Gln Thr Leu His Pro Asn
20 25 30
Arg Pro Thr Leu Ser Pro Glu Arg Lys Leu Glu Trp Asn Asn Asp Ile
35 40 45
Pro Glu Val Asn Arg Leu Asn Ser Glu His Trp Arg Lys Thr Glu Glu
50 55 60
Gln Pro Gly Arg Gly Glu Val Leu Leu Pro Glu Gly Asp Val Ser Gly
65 70 75 80
Asn Gly Met Thr Glu Leu Leu Pro Ile Gly Arg His Gln Gln Lys Arg
85 90 95
Pro His Asp Ala Gly Pro Glu Asp His Ala Phe Glu Asp Gln Leu His
100 105 110
Pro Leu Val His Ser Asp Arg Thr Pro Val His Arg Val Phe Asp Val
115 120 125
Ser His Leu Glu Gln Pro Val His Ser Ser His Val Glu Gly Met Leu
130 135 140
Ala Lys Met Glu Gly Met Ala Gln Arg Ser Gly His Gln Val Ser Lys
145 150 155 160
Ala Ala Pro Pro Leu Gln Ser Leu Leu Ala
165 170

<210> 26

<211> 2077

<212> DNA

<213> Rattus norvegicus

<220>

<221> CDS

<222> (200)...(1825)

<400> 26

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gcggtctggg tcccacctcc tctgctttcg cacccttgaa gttttggagc accaggaaaa 120
gagggcaagg aaggagaggg gaagcgaaag catatcctaa aacatttact taaaggagga 180
aagaaaaggg gtcgcagaa atg gct ggg gca att ata gaa aac atg agc acc 232
Met Ala Gly Ala Ile Ile Glu Asn Met Ser Thr
1 5 10
aag aag ctc tgc att gtt gga ggg att ctt ctg gtt ttc caa atc gtt 280
Lys Lys Leu Cys Ile Val Gly Gly Ile Leu Leu Val Phe Gln Ile Val
15 20 25
gcc ttt ctg gtg gga ggc ttg atc gct cca gca ccc aca acg gca gtg 328
Ala Phe Leu Val Gly Gly Leu Ile Ala Pro Ala Pro Thr Thr Ala Val
30 35 40
tcc tac gtg gca gca aaa tgt gtg gat gtc cgg aag aac cac cat aaa 376
Ser Tyr Val Ala Ala Lys Cys Val Asp Val Arg Lys Asn His His Lys
45 50 55
aca aga tgg ctg atg ccc tgg gga cca aac aag tgt aac aag atc aat 424

Thr	Arg	Trp	Leu	Met	Pro	Trp	Gly	Pro	Asn	Lys	Cys	Asn	Lys	Ile	Asn		
60					65					70					75		
gac	ttc	gaa	gaa	gca	att	cca	agg	gaa	att	gaa	gcg	aat	gac	att	gtg	472	
Asp	Phe	Glu	Glu	Ala	Ile	Pro	Arg	Glu	Ile	Glu	Ala	Asn	Asp	Ile	Val		
				80					85					90			
ttt	tct	gta	cac	att	ccc	ctc	cct	tct	atg	gag	atg	agc	cca	tgg	ttc	520	
Phe	Ser	Val	His	Ile	Pro	Leu	Pro	Ser	Met	Glu	Met	Ser	Pro	Trp	Phe		
			95					100					105				
cag	ttt	atg	ctg	ttt	atc	ctg	cag	ata	gac	att	gct	ttc	aag	cta	aac	568	
Gln	Phe	Met	Leu	Phe	Ile	Leu	Gln	Ile	Asp	Ile	Ala	Phe	Lys	Leu	Asn		
		110					115					120					
aac	caa	atc	aga	gaa	aat	gca	gaa	gtt	tcc	atg	gat	gtt	tcc	ctg	ggc	616	
Asn	Gln	Ile	Arg	Glu	Asn	Ala	Glu	Val	Ser	Met	Asp	Val	Ser	Leu	Gly		
		125				130					135						
tac	cgt	gat	gat	atg	ttt	tct	gag	tgg	act	gaa	atg	gcg	cac	gaa	aga	664	
Tyr	Arg	Asp	Asp	Met	Phe	Ser	Glu	Trp	Thr	Glu	Met	Ala	His	Glu	Arg		
140					145					150					155		
gta	cca	cgt	aaa	ctc	aga	tgc	act	ttc	aca	tcc	ccc	aag	acc	cca	gag	712	
Val	Pro	Arg	Lys	Leu	Arg	Cys	Thr	Phe	Thr	Ser	Pro	Lys	Thr	Pro	Glu		
				160				165						170			
cat	gaa	ggt	cgt	cat	tat	gaa	tgt	gat	gtc	ctt	cct	ttc	atg	gaa	att	760	
His	Glu	Gly	Arg	His	Tyr	Glu	Cys	Asp	Val	Leu	Pro	Phe	Met	Glu	Ile		
			175					180					185				
ggg	tca	gtg	gct	cat	aag	tat	tac	ctt	cta	aat	atc	cgg	cta	cct	gta	808	
Gly	Ser	Val	Ala	His	Lys	Tyr	Tyr	Leu	Leu	Asn	Ile	Arg	Leu	Pro	Val		
		190					195					200					
aat	gag	aag	aag	aaa	atc	aat	gtt	gga	att	ggg	gaa	ata	aag	gac	att	856	
Asn	Glu	Lys	Lys	Lys	Ile	Asn	Val	Gly	Ile	Gly	Glu	Ile	Lys	Asp	Ile		
		205				210					215						
cgg	ttg	gtg	gga	atc	cac	caa	aat	gga	ggt	ttc	act	aag	gta	tgg	ttt	904	
Arg	Leu	Val	Gly	Ile	His	Gln	Asn	Gly	Gly	Phe	Thr	Lys	Val	Trp	Phe		
220					225					230					235		
gct	atg	aag	acc	ttc	ctc	aca	ccc	agc	atc	ttc	atc	att	atg	gtg	tgg	952	
Ala	Met	Lys	Thr	Phe	Leu	Thr	Pro	Ser	Ile	Phe	Ile	Ile	Met	Val	Trp		
				240					245					250			
tat	tgg	aga	agg	atc	acc	atg	atg	tcc	cga	cct	cca	gtg	ctt	ctg	gaa	1000	
Tyr	Trp	Arg	Arg	Ile	Thr	Met	Met	Ser	Arg	Pro	Pro	Val	Leu	Leu	Glu		
			255					260					265				
aaa	gtc	atc	ttt	gcc	ctt	ggg	att	tcc	atg	acc	ttt	atc	aat	atc	cct	1048	
Lys	Val	Ile	Phe	Ala	Leu	Gly	Ile	Ser	Met	Thr	Phe	Ile	Asn	Ile	Pro		

285

290

295

ggt gac ata cga cag ggc atc ttc tat gca atg ctt ctt tcc ttc tgg 1144
 Gly Asp Ile Arg Gln Gly Ile Phe Tyr Ala Met Leu Leu Ser Phe Trp
 300 305 310 315

atc atc ttc tgt ggc gag cac atg atg gat caa cat gag cgg aat cac 1192
 Ile Ile Phe Cys Gly Glu His Met Met Asp Gln His Glu Arg Asn His
 320 325 330

att gca ggg tat tgg aag caa gtt gga cca att gct gtt ggc tct ttc 1240
 Ile Ala Gly Tyr Trp Lys Gln Val Gly Pro Ile Ala Val Gly Ser Phe
 335 340 345

tgc ctc ttc ata ttt gac atg tgt gag aga gga gtg caa ctc aca aat 1288
 Cys Leu Phe Ile Phe Asp Met Cys Glu Arg Gly Val Gln Leu Thr Asn
 350 355 360

cct ttc tac agt atc tgg act aca gat gtt gga aca gaa ctg gct atg 1336
 Pro Phe Tyr Ser Ile Trp Thr Thr Asp Val Gly Thr Glu Leu Ala Met
 365 370 375

gct ttc atc att gtg gca ggt atc tgc ctc tgc ctc tac ttc ctg ttt 1384
 Ala Phe Ile Ile Val Ala Gly Ile Cys Leu Cys Leu Tyr Phe Leu Phe
 380 385 390 395

ctg tgt ttc atg gta ttt caa gta ttc aga aac atc agt ggg aaa cag 1432
 Leu Cys Phe Met Val Phe Gln Val Phe Arg Asn Ile Ser Gly Lys Gln
 400 405 410

tct agc ctc cca gcc atg agc aaa gtc cgg agg ctg cac tat gag ggt 1480
 Ser Ser Leu Pro Ala Met Ser Lys Val Arg Arg Leu His Tyr Glu Gly
 415 420 425

ctg att ttc agg ttc aag ttc ctc atg ctg atc acc ttg gct tgt gct 1528
 Leu Ile Phe Arg Phe Lys Phe Leu Met Leu Ile Thr Leu Ala Cys Ala
 430 435 440

gcc atg act gtt atc ttc ttc att gtt agt cag gtg aca gaa ggc cat 1576
 Ala Met Thr Val Ile Phe Phe Ile Val Ser Gln Val Thr Glu Gly His
 445 450 455

tgg aaa tgg ggt ggg gtc aca gtt caa gtg agc agt gct ttc ttc act 1624
 Trp Lys Trp Gly Gly Val Thr Val Gln Val Ser Ser Ala Phe Phe Thr
 460 465 470 475

gga atc tat ggg atg tgg aac ctg tat gtc ttt gct ttg atg ttc ttg 1672
 Gly Ile Tyr Gly Met Trp Asn Leu Tyr Val Phe Ala Leu Met Phe Leu
 480 485 490

tat gca cca tcc cat aag aac tat ggg gaa gac cag tct aat ggt gac 1720
 Tyr Ala Pro Ser His Lys Asn Tyr Gly Glu Asp Gln Ser Asn Gly Asp
 495 500 505

ctg ggt gtc cac agc ggg gaa gaa ctg cag ctc act acc aca atc acc 1768
 Leu Gly Val His Ser Gly Glu Glu Leu Gln Leu Thr Thr Thr Ile Thr
 510 515 520

1144
1192
1240
1288
1336
1384
1432
1480
1528
1576
1624
1672
1720
1768

cat gta gat gga ccg act gag atc tac aag ttg acc cgt aaa gaa gca 1816
 His Val Asp Gly Pro Thr Glu Ile Tyr Lys Leu Thr Arg Lys Glu Ala
 525 530 535

cag gag tag taggctatgg cattcatcct cagggcaggt gatgaagcca 1865
 Gln Glu *
 540

agttgctggt gcatgctgac cctcatgaat atgctttcgt atctttatgt cccaggatca 1925
 tttttatcct gtcacgttta caagaacatt tctgacatgc atacgtttac ttttaccatg 1985
 tattagttac ttttatattt ctgtgataaa acaccatgag aaatacaatt tacagaagca 2045
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 <213> Rattus norvegicus

<220>
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 -10 -5 1 5
 Glu Gln Glu Gly Lys Glu Val Trp Asp Tyr Val Thr Val Arg Glu Asp
 10 15 20
 Ala Arg Met Phe Trp Trp Leu Tyr Ala Thr Asn Pro Cys Lys Asn
 25 30 35
 Phe Ser Glu Leu Pro Leu Val Met Trp Leu Gln Gly Gly Pro Gly Gly
 40 45 50
 Ser Ser Thr Gly Phe Gly Asn Phe Glu Glu Ile Gly Pro Leu Asp Thr
 55 60 65 70
 Arg Leu Lys Pro Arg Asn Thr Thr Trp Leu Gln Trp Ala Ser Leu Leu
 75 80 85
 Phe Val Asp Asn Pro Val Gly Thr Gly Phe Ser Tyr Val Asn Thr Thr
 90 95 100
 Asp Ala Tyr Ala Lys Asp Leu Asp Thr Val Ala Ser Asp Met Met Val
 105 110 115
 Leu Leu Lys Ser Phe Phe Asp Cys His Lys Glu Phe Gln Thr Val Pro
 120 125 130
 Phe Tyr Ile Phe Ser Glu Ser Tyr Gly Gly Lys Met Ala Ala Gly Ile
 135 140 145 150
 Ser Leu Glu Leu His Lys Ala Ile Gln Gln Gly Thr Ile Lys Cys Asn
 155 160 165
 Phe Ser Gly Val Ala Leu Gly Asp Ser Trp Ile Ser Pro Val Asp Ser
 170 175 180
 Val Leu Ser Trp Gly Pro Tyr Leu Tyr Ser Val Ser Leu Asp Asn
 185 190 195
 Lys Gly Leu Ala Glu Val Ser Asp Ile Ala Glu Gln Val Leu Asn Glu
 200 205 210
 Lys Gln Gly Leu Leu Gln Gly Ser His Ser Ala Val Gly Glu Ser Arg
 215 220 225 230
 Asn Asp His

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 200
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<210> 28
<211> 755
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(755)
<223> n = A,T,C or G

<221> CDS
<222> (30)...(122)

<400> 28
tctaacgaac cccttcggag cgatggaat gag aaa ggc cca gaa tgt gtt aag 53
Glu Lys Gly Pro Glu Cys Val Lys
1 5

tct gtg cag ggg aag tgt cct gag ggg agg gtc ttt ggg agg gtc gaa 101
Ser Val Gln Gly Lys Cys Pro Glu Gly Arg Val Phe Gly Arg Val Glu
10 15 20

ggc cag gat ggc aaa gtg aag gtagctgagg ttgcagtctt gggtgcccac 152
Gly Gln Asp Gly Lys Val Lys
25 30

tgctgtgcat ctgtctggtt atctaccctt actttgggct gacaactgca gggttgggtg 212
taggctgtct cactgcatgc cgggaagctg gagaagctcc acgggaacat tgagggccat 272
ggctttgaga cactgcagag catccttggt ctctgtaacc acgtcaccta accctgacaa 332
ttccagaccc ttcttccatt gtccttggtg accatttggg cttatctttc cctcttagtc 392
gcaagggtca aaccaagggt cagtcaagta gatgactgtc accttgggcc tccccagact 452
ctgtgtccgg ggttgggaga ccaaagtaga aactgccact acaaggcccc aggatgaggt 512
ctctgttctg tggacctgct cccagatac aggcctcaga cccataggac gtggccggtg 572
ctcagggaca cccaatcccc ggcctcactc catcgagtac tgacttcttt ctctagtgcc 632
ttgggggtct ccctccttca gttatggtat gaagaatcta tgcaaactgt ataagcttct 692
gtcaccaat aaacgcttta tttaaagctt annnnnnnnn nnnnnnnnnn nnaagcggn 752
cgc 755

<210> 29
<211> 1310
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(1310)
<223> n = A,T,C or G

<221> CDS
<222> (89)...(391)

<400> 29
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cagcaatcca gctggagaaa cgcttgag atg aca agg gac ttt cag aag caa 112
Met Thr Arg Asp Phe Gln Lys Gln

1

5

gcc ttg ata aga cag gaa aag cag aat tct aat aaa gat atg agg aaa 160
 Ala Leu Ile Arg Gln Glu Lys Gln Asn Ser Asn Lys Asp Met Arg Lys
 10 15 20

aat gac atg ggc ctt caa cct ctg cct gta ggg aag gac gca cac agt 208
 Asn Asp Met Gly Leu Gln Pro Leu Pro Val Gly Lys Asp Ala His Ser
 25 30 35 40

gca cca gga gtg aca gtc tct ggg aaa aac cac aaa aga act cag gca 256
 Ala Pro Gly Val Thr Val Ser Gly Lys Asn His Lys Arg Thr Gln Ala
 45 50 55

cct gac aag aaa cag aga att gat gtt tgt cta gaa agc cag gac ttt 304
 Pro Asp Lys Lys Gln Arg Ile Asp Val Cys Leu Glu Ser Gln Asp Phe
 60 65 70

cta atg aag aca aat act tcc aag gag tta aaa atg gca atg gag agg 352
 Leu Met Lys Thr Asn Thr Ser Lys Glu Leu Lys Met Ala Met Glu Arg
 75 80 85

tcc ttt aat cca gtc aac ctt tcc ctg act gtg gtg taa aagaaaatga 401
 Ser Phe Asn Pro Val Asn Leu Ser Leu Thr Val Val *
 90 95 100

ggacgccctt ctctccatct tcccctcctt cttctccttc caattgcgtc atctgaaatt 461
 gaatttcctc tctcctccca ccacctataa tgctgtgcct gaaaaaaatg agtttcctcc 521
 ctcatcaccc acagagaagt caagggctga acttgagagc ctcccaaccc tgcctcttcc 581
 tccaccacca ggagatgaga aatctgatca ggaatgtcta ccaacatccc tacctcctcc 641
 cctccacaca gctccatccc aaccagcaca tcttctttcc tctctgttc tagaacatca 701
 cagtgaagca tttttacaac agtattcccg aaaagaaacc ttggactctc atcggttca 761
 ctacacaggct aaaatcctaa caggaaaatc accaccccca acactcccca aacccaaact 821
 tcccagagaga atcaaagcta agatgagcca ggattcacca agcgggtgaat tggaaagatc 881
 tctgtcagat gtggaatta aaactaccct ctcaaaggat cagaaaagtt cgctggtggc 941
 agaaaqccgt gagcacacag aggccaagca agaagtattc cgaaaaagcc ttggaagaaa 1001
 acagctgtcc attagctctg caaactccct ctctcagaca gttccagaaa tcccagcacc 1061
 caaggaaaaa cagacagcac cccttggttaa atctcactca ttcccatcag gttcagaaca 1121
 acaaagtcct aagccttaca tgagaaaatt taagacaccc ttaatgattg cggaagaaaa 1181
 atacagacaa caaagggaag agcttgagaa acagagacgg gagagttctt gccatagcat 1241
 catcaaaaaca gaaaccacgc accgcagctt atcaaanntt aaaaaaaaaa aaaannnagc 1301
 ggncgcccg 1310

<210> 31
 <211> 774
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> misc_feature
 <222> (1)...(774)
 <223> n = A,T,C or G

<221> CDS
 <222> (297)...(494)

<400> 31

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attaatgggg	ggaagtatgt	ttatgtggga	tttatccact	tcttttagat	tctcctacct	120
gttgatctgt	aattattcct	agtagtctct	tagagttctt	agaagcatgc	tgttaccgct	180
aatatttcct	tttggtttgg	atcttactta	aacatattgt	ttccttactc	tctttttcat	240
cccagcttgt	ctaactgaaa	ggccagaccc	aacttgatct	atccctttaa	aacttc atg	299

Met

1

tct	tgg	cct	ggt	gat	ttc	tct	gct	cca	ggt	gtc	acc	gaa	ggg	ggt	cgc	347
Ser	Trp	Pro	Val	Asp	Phe	Ser	Ala	Pro	Gly	Val	Thr	Glu	Gly	Val	Arg	
		5						10					15			

cta	gcg	aac	ccc	ttc	gta	aca	gcc	aag	ggt	ttt	gag	aca	gag	ggt	tca	395
Leu	Ala	Asn	Pro	Phe	Val	Thr	Ala	Lys	Val	Phe	Glu	Thr	Glu	Val	Ser	
		20					25					30				

aca	gca	ttc	ctg	gag	gag	aca	caa	agg	aca	gat	gag	tca	cat	gaa	gga	443
Thr	Ala	Phe	Leu	Glu	Glu	Thr	Gln	Arg	Thr	Asp	Glu	Ser	His	Glu	Gly	
		35				40					45					

tgg	gag	gag	gga	agg	tgg	ctg	ttg	ata	ggt	att	ttg	aga	cac	tct	att	491
Trp	Glu	Glu	Gly	Arg	Trp	Leu	Leu	Ile	Gly	Ile	Leu	Arg	His	Ser	Ile	
	50				55				60					65		

tga	gtcctacaca	acactccccc	ctccccccaa	accattttta	tgtctattga	544
-----	------------	------------	------------	------------	------------	-----

*

cctttcctct	agtcatacag	ggaaattcac	agttacctac	aaagaaccac	taattgtaac	604
aagtcaagag	gaaacttatt	tttgataatg	actcattgaa	gatgttttga	aaatttaaaa	664
ataagctctg	ttagcagaag	tctgttnngaa	aagcangaag	gaantgtttg	tttattanat	724
aaataaaaag	cggcgaggac	aacaaaaaaa	aaaaaaaaaa	aagcggccgc		774

<210> 33

<211> 1259

<212> DNA

<213> Rattus norvegicus

<220>

<221> CDS

<222> (92) ... (220)

<400> 33

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acttgactta	agcatcctga	tttaaccaag	a atg gtg gca cac aac ttt aac			112
			Met Val Ala His Asn Phe Asn			
		1		5		

ccc	cat	gct	ggg	gaa	gca	gag	gca	cac	tta	atc	tgt	gtg	agt	ccc	agg	160
Pro	His	Ala	Gly	Glu	Ala	Glu	Ala	His	Leu	Ile	Cys	Val	Ser	Pro	Arg	
		10				15					20					

cca	tcc	agg	gat	acc	gta	gta	gtg	aga	ccc	tgt	ctc	aca	aaa	caa	aga	208
Pro	Ser	Arg	Asp	Thr	Val	Val	Val	Arg	Pro	Cys	Leu	Thr	Lys	Gln	Arg	
	25				30					35						

atg	gga	att	tag	ggctgggtggg	gctcagcatg	caactgtgcc	tgttacctag	260
-----	-----	-----	-----	-------------	------------	------------	------------	-----

Met Gly Ile *

40

tctggcctga	gttcaattcc	caagactcaa	tgtatgagga	gagaaacgat	ttctgaactc	320
attcattgat	ctccaaatgt	gtggtatagg	tgcccttccc	ttaaataaaa	caaacaacaa	380
aaaaacaaca	aaaacaacaa	acccccaata	aatgtatatt	taattttaaa	agactgtact	440
tgggcatggt	acttcacatc	tacagttacg	acattctaga	ggctcaggcc	tgggaattgc	500
tatgaatttg	aggccagtct	gggttagagt	gacttctcat	ctaggcagga	ctacgtaata	560
agtctttgcc	caaaaataaa	cagcaaccca	aataagagca	acaagaattc	tccctccaaa	620
tagtaacctg	ggcctggaga	gacagcttag	caactgagtg	cttgccgagc	catcgaggac	680
tggagtctgg	attccagcac	ccgtgtgaca	gacaagctgg	gcgttcactc	atgctgatga	740
accccaaggc	tgaggagaca	ctgactcttc	tctggccctg	ttcatgctgt	ccacaggtgc	800
ccaagtagca	gttaagtaga	ctgtcagaca	acatggctgg	ctttttaagc	aagaacagta	860
actgaagaaa	tacacttttg	aagtactgtt	aattttgctt	aaaacttggt	agggagctgg	920
aggatggctc	agtggttaag	agcactgact	gctcttccag	aggtcctgag	ttcaattccc	980
agcaaccaca	tggtggctca	caaccatctg	taatgagctc	tgatgccctc	tttttggtgt	1040
gtctgaagac	agcgacagtg	tactcatata	aaataaaaata	aatctttttt	ttttttaaaa	1100
gaaatttgtc	agagatatgg	caggaagggt	atatttttac	ctattttacct	ggtgggctaa	1160
tcctgggtatt	tttttcaaaa	ttaagatact	atataggagc	cgcaagggg	tcgctaggcc	1220
agtgtgatgg	atatctgcag	aattcggtta	gccgaattc			1259

<210> 34

<211> 541

<212> PRT

<213> Rattus norvegicus

<400> 34

Met	Ala	Gly	Ala	Ile	Ile	Glu	Asn	Met	Ser	Thr	Lys	Lys	Leu	Cys	Ile
1				5					10					15	
Val	Gly	Gly	Ile	Leu	Leu	Val	Phe	Gln	Ile	Val	Ala	Phe	Leu	Val	Gly
			20					25					30		
Gly	Leu	Ile	Ala	Pro	Ala	Pro	Thr	Ala	Val	Ser	Tyr	Val	Ala	Ala	
		35					40				45				
Lys	Cys	Val	Asp	Val	Arg	Lys	Asn	His	His	Lys	Thr	Arg	Trp	Leu	Met
	50					55					60				
Pro	Trp	Gly	Pro	Asn	Lys	Cys	Asn	Lys	Ile	Asn	Asp	Phe	Glu	Glu	Ala
65					70					75					80
Ile	Pro	Arg	Glu	Ile	Glu	Ala	Asn	Asp	Ile	Val	Phe	Ser	Val	His	Ile
			85						90					95	
Pro	Leu	Pro	Ser	Met	Glu	Met	Ser	Pro	Trp	Phe	Gln	Phe	Met	Leu	Phe
			100					105					110		
Ile	Leu	Gln	Ile	Asp	Ile	Ala	Phe	Lys	Leu	Asn	Asn	Gln	Ile	Arg	Glu
		115					120					125			
Asn	Ala	Glu	Val	Ser	Met	Asp	Val	Ser	Leu	Gly	Tyr	Arg	Asp	Asp	Met
	130					135					140				
Phe	Ser	Glu	Trp	Thr	Glu	Met	Ala	His	Glu	Arg	Val	Pro	Arg	Lys	Leu
145					150					155					160
Arg	Cys	Thr	Phe	Thr	Ser	Pro	Lys	Thr	Pro	Glu	His	Glu	Gly	Arg	His
			165						170					175	
Tyr	Glu	Cys	Asp	Val	Leu	Pro	Phe	Met	Glu	Ile	Gly	Ser	Val	Ala	His
		180						185					190		
Lys	Tyr	Tyr	Leu	Leu	Asn	Ile	Arg	Leu	Pro	Val	Asn	Glu	Lys	Lys	Lys
	195						200					205			
Ile	Asn	Val	Gly	Ile	Gly	Glu	Ile	Lys	Asp	Ile	Arg	Leu	Val	Gly	Ile
	210					215					220				
His	Gln	Asn	Gly	Gly	Phe	Thr	Lys	Val	Trp	Phe	Ala	Met	Lys	Thr	Phe
225					230					235					240

Leu Thr Pro Ser Ile Phe Ile Ile Met Val Trp Tyr Trp Arg Arg Ile
 245 250 255
 Thr Met Met Ser Arg Pro Pro Val Leu Leu Glu Lys Val Ile Phe Ala
 260 265 270
 Leu Gly Ile Ser Met Thr Phe Ile Asn Ile Pro Val Glu Trp Phe Ser
 275 280 285
 Ile Gly Phe Asp Trp Thr Trp Met Leu Leu Phe Gly Asp Ile Arg Gln
 290 295 300
 Gly Ile Phe Tyr Ala Met Leu Leu Ser Phe Trp Ile Ile Phe Cys Gly
 305 310 315 320
 Glu His Met Met Asp Gln His Glu Arg Asn His Ile Ala Gly Tyr Trp
 325 330 335
 Lys Gln Val Gly Pro Ile Ala Val Gly Ser Phe Cys Leu Phe Ile Phe
 340 345 350
 Asp Met Cys Glu Arg Gly Val Gln Leu Thr Asn Pro Phe Tyr Ser Ile
 355 360 365
 Trp Thr Thr Asp Val Gly Thr Glu Leu Ala Met Ala Phe Ile Ile Val
 370 375 380
 Ala Gly Ile Cys Leu Cys Leu Tyr Phe Leu Phe Leu Cys Phe Met Val
 385 390 395 400
 Phe Gln Val Phe Arg Asn Ile Ser Gly Lys Gln Ser Ser Leu Pro Ala
 405 410 415
 Met Ser Lys Val Arg Arg Leu His Tyr Glu Gly Leu Ile Phe Arg Phe
 420 425 430
 Lys Phe Leu Met Leu Ile Thr Leu Ala Cys Ala Ala Met Thr Val Ile
 435 440 445
 Phe Phe Ile Val Ser Gln Val Thr Glu Gly His Trp Lys Trp Gly Gly
 450 455 460
 Val Thr Val Gln Val Ser Ser Ala Phe Phe Thr Gly Ile Tyr Gly Met
 465 470 475 480
 Trp Asn Leu Tyr Val Phe Ala Leu Met Phe Leu Tyr Ala Pro Ser His
 485 490 495
 Lys Asn Tyr Gly Glu Asp Gln Ser Asn Gly Asp Leu Gly Val His Ser
 500 505 510
 Gly Glu Glu Leu Gln Leu Thr Thr Thr Ile Thr His Val Asp Gly Pro
 515 520 525
 Thr Glu Ile Tyr Lys Leu Thr Arg Lys Glu Ala Gln Glu
 530 535 540

<210> 35
 <211> 777
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> CDS
 <222> (247)...(387)

<400> 35
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 gctcttagta ctgttctttt ctaagattct tctaatatga cacattaaga ctttcttaaa 120
 atgtacaact gctacgctga tctaaacatt caaagtcac acatttcgct atgaagccac 180
 gtgaccagag tcctggggac taatttctgt cttagtcaga ttcctattgc tatatgaaga 240
 aatacc atg ata gtg tca act ttt ata aag aaa aag tat tcc ttt ggg 288
 Met Ile Val Ser Thr Phe Ile Lys Lys Lys Tyr Ser Phe Gly
 1 5 10

gca gag gga agt ctg gtg ctc tcg gca gca ggc ttg ggg ctg ggg gta 557
Ala Glu Gly Ser Leu Val Leu Ser Ala Ala Gly Leu Gly Leu Gly Val
125 130 135

gca gct act gtg act aat gtt gct act tca atc atg aag gaa aca agc 605
Ala Ala Thr Val Thr Asn Val Ala Thr Ser Ile Met Lys Glu Thr Ser
140 145 150 155

agg gtt ttg gat gga gtc gaa gct ggt cac cat ggt tca acc gcc atg 653
Arg Val Leu Asp Gly Val Glu Ala Gly His His Gly Ser Thr Ala Met
160 165 170

gat ata ctg gag gaa gct ggc aca agt gtg gct agg att gcc agc gag 701
Asp Ile Leu Glu Glu Ala Gly Thr Ser Val Ala Arg Ile Ala Ser Glu
175 180 185

atc cct cag gct acc aga gat atc acc aga gac ctg gaa gcc ctt gag 749
Ile Pro Gln Ala Thr Arg Asp Ile Thr Arg Asp Leu Glu Ala Leu Glu
190 195 200

cag cac atg aat gcc ctc agt ctg gtc aga gcc aac cct cgc cta gaa 797
Gln His Met Asn Ala Leu Ser Leu Val Arg Ala Asn Pro Arg Leu Glu
205 210 215

gaa gat gcc agg gcc ctc atc aat gca ggt agc atc cct gcc caa cgg 845
Glu Asp Ala Arg Ala Leu Ile Asn Ala Gly Ser Ile Pro Ala Gln Arg
220 225 230 235

gct aaa cag gtg cgg gcc agt ctg aaa gga acc cct ctg gca atg agc 893
Ala Lys Gln Val Arg Ala Ser Leu Lys Gly Thr Pro Leu Ala Met Ser
240 245 250

aag gaa gac cgg atc cgc agt gcc acc acc act ggg gtc acc ctc ttg 941
Lys Glu Asp Arg Ile Arg Ser Ala Thr Thr Thr Gly Val Thr Leu Leu
255 260 265

cgt gat gtg ggg agc ctt gtg aac gag tcg aag cag ttg tac gaa ggg 989
Arg Asp Val Gly Ser Leu Val Asn Glu Ser Lys Gln Leu Tyr Glu Gly
270 275 280

tct gct tcc gaa tcg gca gca gca cta agg aag ctg gct cag gag ctg 1037
Ser Ala Ser Glu Ser Ala Ala Ala Leu Arg Lys Leu Ala Gln Glu Leu
285 290 295

gag gag aag cta ggg gag ctc atg aaa ttc tac gag aca atc tga 1082
Glu Glu Lys Leu Gly Glu Leu Met Lys Phe Tyr Glu Thr Ile *
300 305 310

tcagggtttca gccagtcacc ccatcccca gacatgcaga catcanggga gaggatctgg 1142
acagaggtag ggaccatgga ggtgctgtta gaaggagagc aagactacag tcagggtccga 1202
gggacatagt gtggaggcct gtttgatgaa cacarcaggat taraggatgg agcagtggtat 1262
caaagtgaga tccactggag cctgagacsa gggaccagag gatgtgctgc aagagggact 1322
gggaaaattg aaatctanac taaacatgga aaaaaggcag tttcgaaaga ctagaaaacc 1382
ctccccatct gagccattgg aaaccccaca aaacacaaac cagagagaaa agtgtgtgct 1442
ctctaaacaa gtcgtggccc ccagttcccc agcccactcc caccctcagg ggtggcatca 1502
aataaattgt ttccatttca aaaaaaaaaa naaanaaaaa aaaagcggcc gc 1554

gag gag gga agt ctg gtg ctc tcg gca gca ggc ttg ggg ctg ggg gta
Ala Glu Gly Ser Leu Val Leu Ser Ala Ala Gly Leu Gly Leu Gly Val
125 130 135

<210> 40
<211> 1142
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(1142)
<223> n = A,T,C or G

<400> 40
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tcttcggtaa agccaacttt cttacacata ttctgggaag taattaacta caatttggac 180
ttatagttac aaggttgcct tcgaaacact gctctaaatg tgtctcgtgt tggggtgcta 240
ctttgcttat gtgtaaattt cacagtaatg caatagagaa aggggtgttg tgggtgtggc 300
ttgtgggggg gattgttttg ttgttgttgt ttgagataaa gcttcattct gtagccagga 360
aagcctggaa tttactgtgt catcccaggt agcttcaaac tgggtgctat cctgcctcag 420
cctccaacgt gttgcaattg caggagtaac ctaccacatc ctgcagctac agtgatctag 480
aacctccccg tcgaagcccc accaccatag aaaccaattt gcattaagtt ttagaattcc 540
caacccaact aaagtttaat aaaaaaagaa aaacaaaaca agatttaaatt cattctttcc 600
ctcattcttt tttnagatnc agggctcncc tagttttnaa caaaacagtn ngcagngnng 660
ggnnccccng gnggggnttt tttncnttgn gccncntngc ancccacccn cccaggcnng 720
atngggnggg gtataaaagt nttancnggc anatgnnctn ggngcanacc caagtntatc 780
aggnccctnan ttncnccca ganaactaga nanctntngc atagtanang ccccntgtgn 840
agatttnaaa nccncctgtn cacaganana gaancctana tagaaaantc aaaatatttn 900
ggngcccaan gttncaccac ctgtagagng ggnccccaaa ancngccncc aganagcnng 960
atatntgagt tntgacctnt attccttact acnacgcntt gagagaatat tntgntgggg 1020
ccctanccac atgttttgnc ccaagantgt aaanccactt naannctgng ggatatctcn 1080
ctgcanacag aagtgccnng cgggatttta aaaaaaaaaa taaaaaaaaa aaaggngccn 1140
cc 1142

<210> 41
<211> 502
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(502)
<223> n = A,T,C or G

<400> 41
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tgtaacacag acagaaggac attggatcat gttgaaccgg ccccccaac tatgagtgat 120
ggtatggaaa gaatgcgaac atttaaactg cgccaatgcg gcggccatct tgggtggagaa 180
gttcctagcc gagctttgat gtgatttttt tgatggtaca atgcagcgag catggccacg 240
ggagctttga atccagccga cagctccgag atttgccctt ccagtgtctt tgcctaccgt 300
agagaggact gctgagatgg gattccttgt gacaagccta cttaccttta actgccagca 360
tttgtaaggt gcaatcttgt gtattggttt tttattttga cagttttgaa aacatgtttg 420
ntgntcttgg tgtttttcca gtaaaaagtaa tcacaaaagga aaaaaaaatt aaaaaaaaaa 480
aaaaaaaaaa aaaagcggcc gc 502

<210> 42
<211> 1426
<212> DNA
<213> Rattus norvegicus

<220>
 <221> misc_feature
 <222> (1)...(1426)
 <223> n = A,T,C or G

<400> 42
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 gacaagggat atttgtgctg tgggtattgc atcttatgga gggctgtagc taactgggac 180
 tcctgggtga ccccaacagg cctttgatcc tctgtctctc cccgcttgat ctttcttacc 240
 ttatgcttcc ccaagtgcag ctgagggact acacagtggc tcccgcacca ctccaaacac 300
 aggaaatcaa tctcagggag aggagataag aagtgaggag aagccaagat tcaaccaata 360
 gatggttaatt gctcctggga ccgccccccc aagcatcatt tccataggaa ggactgagtt 420
 tggctcctga agcccagtg agtacctttc tctgcctgaa ttctgttggtg atccctggcc 480
 aagtcctctt tccagaaacc ccacctttaa aaccagctga gaaggacctt cttctctatg 540
 ttttaataggt aactttccat agcttagctt ccctgcagtc tcccagagtgc ccagttaaaa 600
 ttctgccata ggtcaaaagt ggggttgaga ggtgaagtca gaggccatgc atggagctca 660
 gaacgtttct aaacctcctg tgattcattg agtagcccct agactctaga aggctcagat 720
 gccaaaaagg ktgactttat aatttcttag ggtcttctca tgggatcgkt ttcagagtgg 780
 gcattcacta aatgatagca agtttattaa ttgtttccca gygcctgac tctttatttn 840
 cccagggctt ccaaccagag cccttggttg aaagtctccc acccaccacc caccctgaga 900
 ctgtgtggtt ttctgagatt ccccagggat ggcaaaattg gcattcttac agggagccct 960
 gacttctagc acgttaccta gattttttac cctgctctct ctgcctattt tactatggga 1020
 tcaactgntct ctttgagactt aaggaaccac cttgaagtag agtgagggtga ccacgtgttg 1080
 gtggcgaaga atataagcat tggtccttaa aagagaactt ctatgaagtc aggctgcaag 1140
 ctttaacatg gcacaagttg caccttactg gctgctaagt ctggatgtca accaaaggtc 1200
 aactctntaa ttaaagaaaa gcaagggaga aganaggtgg aagnggcttn cataaacttt 1260
 attcaaaatg tctaccagga atggtggtga caccaataat cccacatgtt ggatgtngag 1320
 gcaggaagaa tgatggttaag gggcatcctc actacataat gagttgaggc tngactaggt 1380
 taactntgct tnaaaaaaaaa aaaaaaaaaa aaaaaaaagg gnggcc 1426

<210> 43
 <211> 985
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> CDS
 <222> (79)...(255)

<400> 43
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 ctctcttctg ccgccagt atg aca tca tca agg aca acg agc cca ata aca 111
 Met Thr Ser Ser Arg Thr Thr Ser Pro Ile Thr
 1 5 10
 aca agg aaa aaa cca aga gtg cat cag aga cca gca ccc cag agc acc 159
 Thr Arg Lys Lys Pro Arg Val His Gln Arg Pro Ala Pro Gln Ser Thr
 15 20 25
 agg gtg ggg gtc tcc tcc gaa gca aga tat gaa acc ctt tca gtg ctt 207
 Arg Val Gly Val Ser Ser Glu Ala Arg Tyr Glu Thr Leu Ser Val Leu
 30 35 40
 gct ctg agc agc tca gaa gta gaa tgc gag agg acc tca ctg ttc tga 255
 Ala Leu Ser Ser Ser Glu Val Glu Cys Glu Arg Thr Ser Leu Phe *

45

50

55

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cgatgattgt ccaacacaca tccggccctc tccgtgtctc ctcccaccac catcttctcc 315
tatcaccggg cttactatct tctctcctgg ctttctctct tctgatggcg gttcctgaag 375
cctccaacta acccctaact cggggagcgc ctgcacagtg tttgtggcta aggctacact 435
cagagacaga gttgcagaat gagggagacc cagcccagg gacgccattg ctgggaggta 495
gactgggtgc gagggccctt ggcacaggac tcacatctgg gctgttcagc ttgacccgaa 555
ggctgtgtgt gaaaggggga aaaagacaag attgccaggc agggctgttg tttttgtggc 615
ttcgaggggac aagaacctgg ctaaaaggca gcagccctgc tgttcttttt ctcctctgtc 675
ctgtttccta cttacaaga agtccatgca accaaccggg gctctggcac ttttcttggt 735
tatttccctc ctggcttcca aacaagccct ctgtggacat catcaaagca tggataacct 795
cctctgcagg ggtgggcttc attctccgct ggtccctgta gccttcctgg acacagggtg 855
aaagttgtaa aagtggtagg agtgcagcta gccacaggtt ctcttttcc catctcagtc 915
tgaccaagga ggctgaacta ccaaccctaaa ttcagcgaaa aaaaaaaaaa aaaaaaaaaa 975
aagcggccgc 985

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<210> 44

<211> 2010

<212> DNA

<213> Rattus norvegicus

<220>

<221> CDS

<222> (239)...(1507)

<221> sig_peptide

<222> (239)...(343)

<400> 44

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tctagcgaac cccttcgcgg ggacagacat ggagaaggag atggaggacc ccctggctgg 60
agcagaccaa cagaataggc aactatggct ggagaaccgg gtatcagagt aatgcttgac 120
ctcgggaaac accaaatttc ttcttccgat cgcagaagta gtactcggcg aaattcacta 180
ggtaggaggc tcctcatctg ggaagaaccg gtgcctgggg ggacctggct ggataggt 238
atg ggg gat cga ggc cgg tcc cct agt ctc cgg tcc ccc cat ggc agt 286
Met Gly Asp Arg Gly Arg Ser Pro Ser Leu Arg Ser Pro His Gly Ser
-35 -30 -25 -20

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cct cca act cta agc acc ctc act ctc ctg ctg ctc ctc tgt gga cag 334
Pro Pro Thr Leu Ser Thr Leu Thr Leu Leu Leu Leu Leu Cys Gly Gln
-15 -10 -5

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gct cac tcc cag tgc aag atc ctc cgc tgc aat gcc gag tac gtc tcg 382
Ala His Ser Gln Cys Lys Ile Leu Arg Cys Asn Ala Glu Tyr Val Ser
1 5 10

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tcc act ctg agc ctt cgg gga ggg ggc tca ccg gac acg cca cat gga 430
Ser Thr Leu Ser Leu Arg Gly Gly Gly Ser Pro Asp Thr Pro His Gly
15 20 25

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```

ggc ggc cgt ggt ggg ccg gcc tca ggt ggc ttg tgt cgc gcc ctg cgc 478
Gly Gly Arg Gly Gly Pro Ala Ser Gly Gly Leu Cys Arg Ala Leu Arg
30 35 40 45

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tcc tac gct ctc tgc acg cgg cgc acc gcc cgc acc tgc cgc ggg gac 526
Ser Tyr Ala Leu Cys Thr Arg Arg Thr Ala Arg Thr Cys Arg Gly Asp
50 55 60

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0123456789
 10111213141516171819
 20212223242526272829
 30313233343536373839
 40414243444546474849
 50515253545556575859
 60616263646566676869
 70717273747576777879
 80818283848586878889
 90919293949596979899

ctc gct ttc cac tcc gcg gtg cat ggc ata gag gac ctg atg atc cag Leu Ala Phe His Ser Ala Val His Gly Ile Glu Asp Leu Met Ile Gln 65 70 75	574
cac aac tgc tca cgc cag ggt ccc acg gcc tcg ccc ccg gcc cgg ggt His Asn Cys Ser Arg Gln Gly Pro Thr Ala Ser Pro Pro Ala Arg Gly 80 85 90	622
cct gcc ctg ccc ggg gcc ggc cca gcg ccc ctg acc cca gat ccc tgt Pro Ala Leu Pro Gly Ala Gly Pro Ala Pro Leu Thr Pro Asp Pro Cys 95 100 105	670
gac tat gaa gcc cgg ttt tcc agg ctg cac ggt cga acc ccg ggt ttc Asp Tyr Glu Ala Arg Phe Ser Arg Leu His Gly Arg Thr Pro Gly Phe 110 115 120 125	718
ttg cat tgt gct tcc ttt gga gac ccc cat gtg cgc agc ttc cac aat Leu His Cys Ala Ser Phe Gly Asp Pro His Val Arg Ser Phe His Asn 130 135 140	766
cac ttt cac aca tgc cgc gtc caa gga gct tgg ccc cta cta gat aac His Phe His Thr Cys Arg Val Gln Gly Ala Trp Pro Leu Leu Asp Asn 145 150 155	814
gac ttc ctc ttt gtc caa gcc acc agc tcc ccg gta gca tcg gga gcc Asp Phe Leu Phe Val Gln Ala Thr Ser Ser Pro Val Ala Ser Gly Ala 160 165 170	862
aac gct acc acc atc cgg aag atc act atc ata ttt aaa aac atg cag Asn Ala Thr Thr Ile Arg Lys Ile Thr Ile Ile Phe Lys Asn Met Gln 175 180 185	910
gaa tgc att gac cag aaa gtc tac cag gct gag gta gac aat ctt cct Glu Cys Ile Asp Gln Lys Val Tyr Gln Ala Glu Val Asp Asn Leu Pro 190 195 200 205	958
gca gcc ttt gaa gat ggt tct gtc aat ggg gcc gac cga cct ggg gcc Ala Ala Phe Glu Asp Gly Ser Val Asn Gly Gly Asp Arg Pro Gly Gly 210 215 220	1006
tcg agt ttg tcc att caa act gct aac ctt ggg agc cac gtg gag att Ser Ser Leu Ser Ile Gln Thr Ala Asn Leu Gly Ser His Val Glu Ile 225 230 235	1054
cga gct gcc tac att gga aca act ata atc gtt cgt cag aca gct gga Arg Ala Ala Tyr Ile Gly Thr Thr Ile Ile Val Arg Gln Thr Ala Gly 240 245 250	1102
cag ctc tcc ttc tcc atc agg gta gcg gag gat gtg gca cgg gcc ttc Gln Leu Ser Phe Ser Ile Arg Val Ala Glu Asp Val Ala Arg Ala Phe 255 260 265	1150
tct gct gag cag gat cta cag ctg tgt gtt ggg gga tgc cct ccg agc Ser Ala Glu Gln Asp Leu Gln Leu Cys Val Gly Gly Cys Pro Pro Ser 270 275 280 285	1198
cag cga ctc tct cgc tca gag cgc aat cgc cgt ggg gcg ata gcc ata	1246

Gln Arg Leu Ser Arg Ser Glu Arg Asn Arg Arg Gly Ala Ile Ala Ile
 290 295 300

gat act gcc aga agg ttg tgt aag gaa ggg ctt ccg gtt gaa gat gcc 1294
 Asp Thr Ala Arg Arg Leu Cys Lys Glu Gly Leu Pro Val Glu Asp Ala
 305 310 315

tac ttc caa tcc tgc gtc ttt gat gtt tca gtc tcc ggt gac ccc aac 1342
 Tyr Phe Gln Ser Cys Val Phe Asp Val Ser Val Ser Gly Asp Pro Asn
 320 325 330

ttt act gtg gca gct cag tca gct ctg gac gat gcc cga gtc ttc ttg 1390
 Phe Thr Val Ala Ala Gln Ser Ala Leu Asp Asp Ala Arg Val Phe Leu
 335 340 345

acc gat ttg gag aac ttg cac ctt ttc cca gta gat gcg ggg cct ccc 1438
 Thr Asp Leu Glu Asn Leu His Leu Phe Pro Val Asp Ala Gly Pro Pro
 350 355 360 365

ctc tct cca gcc acc tgc cta gtc cgg ctt ctt tcg gtc ctc ttt gtt 1486
 Leu Ser Pro Ala Thr Cys Leu Val Arg Leu Leu Ser Val Leu Phe Val
 370 375 380

ctg tgg ttt tgc att cag taa gtaggccagc aaccctgac tagtttggaa 1537
 Leu Trp Phe Cys Ile Gln *
 385

acggtttgag gagagaggtt gatgtgagaa aacacaaaga tgtgccaaag gaaacagtgg 1597
 ggacaggaga caacgacctt actcaatcac acgaggttgc agtccagggc tgaaatgacc 1657
 ctagaataaaa gattctgaga cagggttttg cactccagac cttggtatgg gctccccatg 1717
 aatttcccca ttagtgattt ccactttgta gtgaaattct actctctgta cacctgatat 1777
 cactcctgca aggctagaga ttgtgagagc gctaagggcc agcaaaacat taaagggtcg 1837
 agatatctta aaggcagaaa ctagaaaagg ggaaaccatg attatctata agaaaatcaa 1897
 aagaggggtt tgggaaattta gctcagtggg agagcacttg cctagcaagc gcaaggccct 1957
 gggttcggtc ccagctcct aaaaaaaaaa aaaaaaaaaa aaaaagcggc cgc 2010

<210> 45
 <211> 705
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> misc_feature
 <222> (1)...(705)
 <223> n = A,T,C or G

<221> CDS
 <222> (54)...(230)

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 Met
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aca aca ccc aga gat ctc acc tgg ggt ggt ggg agc act ctc tgt ctt 104
 Thr Thr Pro Arg Asp Leu Thr Trp Gly Gly Gly Ser Thr Leu Cys Leu
 5 10 15

gag gga aca tgt acc tac tct ctc ctt cca caa gag cca cat aca ctt	152
Glu Gly Thr Cys Thr Tyr Ser Leu Leu Pro Gln Glu Pro His Thr Leu	
20 25 30	

aga agt tcc agt gaa gat cta tgt gct tca gaa gag agg gga ctt gga	200
Arg Ser Ser Ser Glu Asp Leu Cys Ala Ser Glu Glu Arg Gly Leu Gly	
35 40 45	

ggt gaa agg ggg agt ggg agg ggg gct tga ggacctanct gaaagatttt	250
Gly Glu Arg Gly Ser Gly Arg Gly Ala *	
50 55	

angctgaaag aacttccttg attcaaagac atatgtcagt ngacccaaca atgagaatga	310
atatgagggc caggaaaact tgtgggaatc agtctcaaga cngaaacnga gaaagaaaga	370
aaagtggnta ggactcanat tggggaacct gggtagacag gagtggcnag ggaagaaagg	430
gatcttgggt tntccacagt ttgagacaca tccgngntc gacctattc ccngaagccn	490
cannanatgt tgcttcccn tcnntnnaat gggectggng gtctnctcc ctttcccng	550
gacatgaaaa ngtnctctgc nnanataacc ccctctttc ctcccccttn antntgtccc	610
tacncttttg tccctttttn ttttnaaaaa annaaaataa aggggnncnn tnttccttn	670
gaaaaaaaaa aaaaaaaaaa aaaaaaccgc ccnc	705

<210> 46
 <211> 968
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> misc_feature
 <222> (1)...(968)
 <223> n = A,T,C or G

<221> CDS
 <222> (86)...(244)

<400> 46	
tctagcgaac cccttcgcga aggggttcgc ttacattcac gcttaagcat attaaactgta	60
catattaact gatttagagg atact atg gat tcc aca tct tcc ctg agc ata	112
Met Asp Ser Thr Ser Ser Leu Ser Ile	
1 5	

ggg att gat ttg aaa aat gac agg gtt ggc tgt cga ccc cca tcg gag	160
Gly Ile Asp Leu Lys Asn Asp Arg Val Gly Cys Arg Pro Pro Ser Glu	
10 15 20 25	

gaa gca ggt aag gaa tca ctt agg aga act gat ctc aac att ctt cag	208
Glu Ala Gly Lys Glu Ser Leu Arg Arg Thr Asp Leu Asn Ile Leu Gln	
30 35 40	

ttc ttt cta tta ttt act tgt tta gcc tgg agt taa attcccactc	254
Phe Phe Leu Leu Phe Thr Cys Leu Ala Trp Ser *	
45 50	

cttgtgagca cttctaattt gaaaatccac tttcttcaat attttcgaaa tttaaaactg	314
atggatgacg tgacaaaact tccacgagtt aagaattctc cacctctgat ctcatcgcag	374
cagggcaciaa tccaaggcat gtgaattgac ttccaggttt atgtgacata taaatgaatt	434
ctgtctctag atttggatcc cattctccta aatatctcac catgcatgtg cagatattct	494

aaagtctaaa	aatatctgat	attgcaaact	tttctgggtca	aaacattttg	gatgagccat	554
ttaacagcca	aggtatttga	gacagagggt	tcaacagcat	tcctggagga	gacacaaagg	614
acagatgagt	cacatgaagg	atgggaggag	ggaaggtggc	tggtgatagg	tattttgaga	674
cactctat	gagtcctaca	caacactccc	ccctccccc	ctcccccaa	accattttta	734
tgtctattga	cctttcctct	agtcatacag	ggacattcac	agttacctac	aaagaaccag	794
aattgtaaca	agtcaagagg	aaacttattt	ttgataatga	ctcattgaag	atgttttgaa	854
aatttaaaaa	taagctcttg	taagcagaag	tctgtgagaa	aagcaagaag	gaattgtttg	914
tttattaaat	aaataaaaag	cnnannnnaa	aaaaaaaaaa	aaaaangcgg	ccgc	968

<210> 47
 <211> 1183
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> misc_feature
 <222> (1)...(1183)
 <223> n = A,T,C or G

<221> CDS
 <222> (246)...(983)

<400> 47						
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cttctgaagt	gacatgtcct	gcaaagaaag	tccccacgtg	ggtgtttcca	ccaccactgt	120
cagctctgta	gctgtgcaag	ctggggactc	caagatcgtg	atagccgttg	tcaagtgtgg	180
caaatgggtg	cggctccaac	tggctgaggc	acagcccaat	ctcctagaaa	ttgggagcag	240
tcaag atg	aaa cca gaa	aac tgc ttc	acg atc acg	agc tcc ttc	tgg cca	290
Met	Lys	Pro	Glu	Asn	Cys Phe Thr Ile Thr Ser Ser Phe Trp Pro	
1			5		10	15
agc tta agg cct tgg aag atc gtg tgt ggg gac tct tac agg aag cag						338
Ser	Leu	Arg	Pro	Trp	Lys Ile Val Cys Gly Asp Ser Tyr Arg Lys Gln	
	20			25	30	
aca gga cgg ctg aag caa aca agg agc aaa gtg agg tgt cga tgc cat						386
Thr	Gly	Arg	Leu	Lys	Gln Thr Arg Ser Lys Val Arg Cys Arg Cys His	
	35			40	45	
ggc cag act ctg ggc gaa gca tgg gcc acc ctg gtc ttc atg ctt gaa						434
Gly	Gln	Thr	Leu	Gly	Glu Ala Trp Ala Thr Leu Val Phe Met Leu Glu	
	50			55	60	
aga aga agg gag ctc ctc gga ctg aca tct gag ttt ttt caa agc gcc						482
Arg	Arg	Arg	Glu	Leu	Leu Gly Leu Thr Ser Glu Phe Phe Gln Ser Ala	
	65			70	75	
ttg gag ttt gct ata aaa ata gac caa gct gaa gat ttt ctg cag aat						530
Leu	Glu	Phe	Ala	Ile	Lys Ile Asp Gln Ala Glu Asp Phe Leu Gln Asn	
	80			85	90	95
cct cac gag ttt gag agt gcc gaa gcc tta cag tca ctt ctt ctg ctt						578
Pro	His	Glu	Phe	Glu	Ser Ala Glu Ala Leu Gln Ser Leu Leu Leu Leu	
	100			105	110	
cat gac cga cac gcc aaa gaa ctc tta gaa cga tct cta gtc ctt tta						626
His	Asp	Arg	His	Ala	Lys Glu Leu Leu Glu Arg Ser Leu Val Leu Leu	

115	120	125	
aac aaa agc caa caa ctc act gac ttc ata gaa aaa ttc aag tgt gat			674
Asn Lys Ser Gln Gln Leu Thr Asp Phe Ile Glu Lys Phe Lys Cys Asp			
130	135	140	
gga tct cct gtg aat tct gag ctc atc cag gga gct cag agc agt tgt			722
Gly Ser Pro Val Asn Ser Glu Leu Ile Gln Gly Ala Gln Ser Ser Cys			
145	150	155	
ctg aag atc gac agc ctc ctt gaa ctt ctg caa gac agg aga agg cag			770
Leu Lys Ile Asp Ser Leu Leu Glu Leu Leu Gln Asp Arg Arg Arg Gln			
160	165	170	175
ctg gac aag cac ttg cag caa cag agg cag gag ttg tct cag gtt ctg			818
Leu Asp Lys His Leu Gln Gln Gln Arg Gln Glu Leu Ser Gln Val Leu			
180	185	190	
cag tta tgt ctg tgg gac caa caa gaa agc cag gtt tct tgt tgg ttt			866
Gln Leu Cys Leu Trp Asp Gln Gln Glu Ser Gln Val Ser Cys Trp Phe			
195	200	205	
cag aaa aca ata aga gat ctg cag gaa cag agt ctg ggt tca tcc ctt			914
Gln Lys Thr Ile Arg Asp Leu Gln Glu Gln Ser Leu Gly Ser Ser Leu			
210	215	220	
tca gac aac aaa gag tta atc cgt aag cac gag gac ctg cca tca aag			962
Ser Asp Asn Lys Glu Leu Ile Arg Lys His Glu Asp Leu Pro Ser Lys			
225	230	235	
caa aga gtc cct gca gtt tag gaattgaaca gaacagtttc ctgattgaat			1013
Gln Arg Val Pro Ala Val *			
240	245		
gatcttggcg cctyyttanc ggntgcagat ggtggggcctt cctctggntt ctcctcctct			1073
tccactaatc tggatttttg ttcccctggt gtgccacatc actttaattt gaaagaaaaa			1133
aaataaattg ggccggaaaa aaaaaaaaaa aaaaaaaaaa rrscggccnc			1183

<210> 48
 <211> 1051
 <212> DNA
 <213> Rattus norvegicus

<400> 48
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 atgcgcgaga agaacgtgca atctcgcgag atcaggctcg ctgcggggca gtctgctcgc 120
 agcctaccct tcctaggagt tggaggaggg aaagctagat tcgattaaga gcaaaaaatt 180
 gttccagcag cagagcagct gtccaaggaa gtatccaaag gaactgcacc tcagtaaact 240
 cctggcaagt cttaggatat gacaaagggc acaggatgca ttatgagaaa ggaaggctaa 300
 ggttttcaag aacacagatt tacatcaaac ttgcgttctg aattaatctt tgagaatact 360
 ggactgtgag ctagacattg agtaagaggt ttgttatatc aagaatgtga tctaaaaaaa 420
 aaacattcat atcttctccc cacaagagga tattttgaaa ctgtgggtca aagtcagact 480
 acaggagagc cctcaaatat gccaaatgtg acagacagca ggattttgaa aatatagtgg 540
 gagtatgtga agatgtttcca gtcaaagaga cattgtttcc aaaggaaaga aagtccagtc 600
 gcctcacagg aattgtgtat tccctggtag taatgcaaag ggaccacata tggctttctt 660
 ctttaaagag aatacctaatt tttagctaca gagtaaaatg ctgatgatac aaaccgtgac 720
 aagtggagggg acaagaaagt aaatggactg atggtgccat tgtggactgg gagggtaaaa 780

gctgtacatt	tgtgaacaaa	aagatttcct	tgttatggtc	agccatgatt	ctaactgcta	840
aatggaggca	gtaacaacat	gacctaaaga	gtaaacaatcc	agagatggaa	tggttctcaat	900
gtctgaaaag	gagcagatat	ctgggtgatg	tgaatgtatg	ctagagattt	tttacaagcc	960
tgtggtgaat	tagtaattgt	attttatttt	gaaagttaaa	caggtaatta	gaaaccccaa	1020
aaaaaaaaaa	aataaaaaaaaa	aagcggccgc	c			1051

<210> 49
 <211> 576
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> misc_feature
 <222> (1)...(576)
 <223> n = A,T,C or G

<400> 49						
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cctcagtgac	acagagggatg	tagtccacag	ctaggtagaa	atgtcagggt	cccaacacta	120
ctccagctgt	gactttgatg	cttgggggat	ggggtcgcag	gctattttct	ctgctttaac	180
agttcataga	atttaacaga	taagagttag	tgtctttcat	gtggcctcac	tctggagtta	240
tgagaacata	cacacggttt	acagcttttc	aatatncctt	tccttgcca	tcaagtattt	300
tgaaagtgtg	ccacctttta	acctttgcgc	tttatttttt	tttctttttt	taaagntgaa	360
ggtgataatt	cttctatata	tgatgaaact	caatgtctac	tgaaataagt	gtaaccttag	420
ctatncacgt	ttatntttta	aaaccacgct	atggagatat	taccccgagt	tctgtcnttt	480
ngcaagattt	acagnacctt	ccncccccc	cttttagcat	tnaataaaaa	natattgggg	540
agcncnntna	aaaaaaaaaaa	aatnaaaaaa	agcggc			576

<210> 50
 <211> 587
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> misc_feature
 <222> (1)...(587)
 <223> n = A,T,C or G

<221> CDS
 <222> (161)...(586)

<400> 50						
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gttggtctga	gcatcccca	tggtcttgtc	tgaggtgtcc	tgtgactcga	ctcttcagaa	120
ctcaatgaag	tagatgactt	gactacaatg	tggaacatc	atg aca gaa agt gtg		175
				Met Thr Glu Ser Val		
				1	5	

gtt tgt acc ggg gcc gtc agc act gta aag gaa gtc tgg gaa gaa aga	223
Val Cys Thr Gly Ala Val Ser Thr Val Lys Glu Val Trp Glu Glu Arg	
10 15 20	

ata aag aaa cat cat gaa gat gtg aaa cga gag aag gaa ttt cag caa	271
Ile Lys Lys His His Glu Asp Val Lys Arg Glu Lys Glu Phe Gln Gln	
25 30 35	

aag cta gtg cgg atc tgg gaa gac cga gtg agt tta act aag ctg aaa	319
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Lys Leu Val Arg Ile Trp Glu Asp Arg Val Ser Leu Thr Lys Leu Lys
40 45 50

gag aag gtg acc agg gaa gat gga aga atc att cta agg ata gag aaa 367
Glu Lys Val Thr Arg Glu Asp Gly Arg Ile Ile Leu Arg Ile Glu Lys
55 60 65

gag gaa tgg aag act ctc cct tct tcc tta ctg aaa ctg aat cag cta 415
Glu Glu Trp Lys Thr Leu Pro Ser Ser Leu Leu Lys Leu Asn Gln Leu
70 75 80 85

cag gag tgg caa ctt cat agg acc gga ttg ttg aaa att cct gaa ttc 463
Gln Glu Trp Gln Leu His Arg Thr Gly Leu Leu Lys Ile Pro Glu Phe
90 95 100

att gga aga ttc cag cat ctc att ggt cta gac tta tct cgg aac aca 511
Ile Gly Arg Phe Gln His Leu Ile Gly Leu Asp Leu Ser Arg Asn Thr
105 110 115

att tca gag atc ccc ccg agg cat tgg act gnt cac tta gac ttc aag 559
Ile Ser Glu Ile Pro Pro Arg His Trp Thr Xaa His Leu Asp Phe Lys
120 125 130

gaa ctg att ctt agc tac aca aaa tca a 587
Glu Leu Ile Leu Ser Tyr Thr Lys Ser
135 140

<210> 51
<211> 819
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(819)
<223> n = A,T,C or G

<400> 51
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ctgtcagggg cacatgttac actaagcttc atgacagtga tgtaataatg ttacacattt 120
gtctttagtg tatgtattga agtttctgtc ctgttttctg taaaaatgta tccactcttg 180
tatatattta gacttgaaac taccacacaa atattggaac ggtttgcttt atgaagttaa 240
aagtatcctt ccgaatggaa ctaacttgct ttgtgctcag acatatacta tgctgatgta 300
ttttgcaata tactatctta aattaaatct ggtcactttg ttgccttttt aaaaagtgtg 360
gtatttcaag tagagttatt ttcctgaaat atatttgcaa actcaagctg ctttataatc 420
aaggaatatt tttattgatt gaagaaaatg actgctgcaa ttcaaaagtg aacttatttt 480
attatataga tgatttctta aaagctatct ataccatgat acaaaatcat gtagtgatcc 540
tgaggagtctg tagttcttcc tgtaataaac attcaacact gtatgctaga ggcagcaatg 600
ccaacactga agttattttg ggtgaaaacc gtcgttctgn cctgttttagc tggggattat 660
taaataccata taatgtatgt gcttatgtat gctacatgtg caagttaggt gtttcctttg 720
tgttctgctt attaaatgtc attcagattc acttcctgaa ttctaataaa gaggggaagct 780
attggaaaaa ataaaaaaaa aaaaaaaaaa gcggccgcc 819

<210> 52
<211> 1648
<212> DNA

<213> Rattus norvegicus

<220>

<221> misc_feature

<222> (1)...(1648)

<223> n = A,T,C or G

<400> 52

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aagacatgca	gcagcagcgc	cctgtgggtt	tgggttttta	tttgattgct	tattttttatc	120
taatttttaa	ttttttgtgt	atgaacgttt	tatctgcatt	tatgtctctg	taccacattc	180
gtgcctgggt	ctatggaggc	caaaaaagga	ttttaggccc	gagattgtag	ttatagatgg	240
ttgtgggctg	ccaatctgag	tgctgaaaat	taaacctggg	tactctgaaa	gaccagccag	300
tgctcttaac	tatcaggcca	cctctccagc	actattttat	tttattttat	ttgtggagat	360
agggctctct	tctctgtatc	ctagtctaac	ttaaaacata	aagaatattc	tgtatcagta	420
tccttgagta	ctaggattct	aggcacctgt	cattatgcct	agatttttaa	cagtgtgtgt	480
taattctaca	taaaaatgaa	tttcattatt	acattttcac	acttgtgaag	aatatacttt	540
gatcatattc	ccttctcctg	atactttttc	ctatccttcc	tccccactcc	attagttccc	600
ttcttctttt	cagagtctac	cttctacttt	ttactttgat	ttttttcccc	ccacattctg	660
tggttgagag	aatgcatatt	acagttgtat	ttctgaatct	ggctaggtac	attcacttaa	720
cataattaat	gacctggggc	gagcgaaggg	gttcncttan	cnaacccctt	cggttcaata	780
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aaagctttgc	accttgcaaa	agtggtcctg	gcgtgggtag	attgctgtta	atcctttatc	960
aataacgttc	tatagagaat	atataaatat	atatataatt	atatctccta	gtccctgcct	1020
cttaagagcc	gaaaatgcat	gggtgttgta	gacattcggt	tgcactaaat	tcctctctga	1080
attttggctg	ctgaagccgt	tcatttagca	actgtttata	ggtggttgat	gaatggttcc	1140
ttatctccat	ttcttcctat	gtagcttaag	ccgcttcctt	cacagaatct	aataatctcg	1200
tctaggccat	tagccctgcc	ctttcttaac	attcttgtat	ttgttgaatt	tggcctcctc	1260
gaaagcaata	gcaactgggt	ggcccaccca	agttttaacg	cccctgattc	catctatggc	1320
atttgtacca	aatataagtt	ggatgcattt	attttagaca	caaagcttta	ttttttcgac	1380
atcgtgtttc	aagaaaaaaa	acaaatagaa	taacaataac	tatgactttg	aggccaatca	1440
tttttaggtg	tgtgtttgaa	gcatagaacg	tctnttaaac	tctcaatggg	tccttcaa	1500
gatgagttag	tatgtaacgt	aaatagcagt	ttctctctct	ctctctctct	ttttattttt	1560
tccanataga	gcactatgta	aatttagcat	atcaataata	caggaactat	ccnccaaaaa	1620
aaaaaaaaaa	aaaaaaaaaa	gcggccgc				1648

<210> 53

<211> 782

<212> DNA

<213> Rattus norvegicus

<220>

<221> misc_feature

<222> (1)...(782)

<223> n = A,T,C or G

<221> CDS

<222> (277)...(426)

<400> 53

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cccactgcat	gctgcagcaa	ggcagtcacg	tgtggaggtc	atcaatctgc	tcactgagta	120
tggggctaac	ctgaaactca	gaaactcgca	gggcaaaagt	gctcttgagc	tcgctgctcc	180
caaaagtagt	gtggagcagg	cactcctgct	ccatgaaggt	ccacctgctc	tttctcagct	240
ctgccgcttg	tgtgtccgga	agtgcctggg	ccgcac atg	tca tca agc cat cta		294
			Met	Ser Ser Ser His Leu		

5

gtt gga aac atg ttg cct gct gta gga cac tta ata tac aca ttc agt 390
Val Gly Asn Met Leu Pro Ala Val Gly His Leu Ile Tyr Thr Phe Ser
25 30 35

gccttcataa	atccaaatac	ttgcgttgaa	caaactcctg	gttagggttaa	tggntgccaa	496
gagataacca	gaaacctttc	aagtttttta	ctcttggtta	tttaaaatca	aactgaaata	556
gatggaaaat	aataatctat	ttttggataa	ttcaaggacc	cttcagtatc	tggggctggg	616
gtccgcattt	tgataactgg	atagacacac	acacaggtag	gatanggtta	atnaactact	676
taaaagaatg	cctgggattt	aagtcctcca	gatatttttt	aggtngnggt	ttcctaaaat	736
aaaattctgg	agtgccaaaa	aaaaaaaaaa	aaaaaaaaag	cgggcc		782

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<210> 54
<211> 538
<212> DNA
<213> Rattus norvegicus
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<220>
<221> misc_feature
<222> (1)...(538)
<223> n = A,T,C or G
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<221> CDS
<222> (252) ... (464)

[illegible]

gca gcc atg gaa gag gta gaa gcc act gtc aga gct aaa cag aaa gaa 338
Ala Ala Met Glu Glu Val Glu Ala Thr Val Arg Ala Lys Gln Lys Glu
15 20 25

t t t a c g g a c a a t a t a a a c a g a g c t t t t g a a c a a g g t g a t t t t g a a a a a 386
Phe Thr Asp Asn Ile Asn Arg Ala Phe Glu Gln Gly Asp Phe Glu Lys
30 35 40 45

gcc aag gaa ctt ctt aca aaa atg aga tac ttt tca aac ata gaa gaa 434
Ala Lys Glu Leu Leu Thr Lys Met Arg Tyr Phe Ser Asn Ile Glu Glu
50 55 60

aag atc aag tta agc aag aac cct ctc tag ttgctaactt aaagggtttaa 484
Lys Ile Lys Leu Ser Lys Asn Pro Leu *

aaataaaactt tgtattttctt cannnnnnnan nnnnannntn nnnnagcggc cgcc

538

<210> 55

<211> 805

<212> DNA

<213> Rattus norvegicus

<400> 55

tctagcgaac	cccttcgcga	aggggttcgc	ttcttaccct	gtggagaaaag	gggcaggagg	60
aacctcctgt	gttaggagga	agctggagct	taccactgtg	agaggacaga	tgtggactga	120
gaattttctt	agtgtctagt	ggcacttccc	aaggactccc	ctccccttgt	gctctgtgcg	180
gttttttagga	cagctaagat	gactgccacc	tgttgtggca	ggcccgattt	gtcttgttct	240
ccccttactg	taccccgata	taatctctgt	tgatcaacag	gactacccca	agaatccaca	300
tgttctcccc	cgtaaccagg	cagctgtctg	gttcatgcct	tcttcccttc	aaacccaacc	360
cagcgccctt	gttagtgaag	aggtgggtcca	tggactgatg	acaagttatt	agcactggat	420
gctgtttcca	tagtgacaag	cctatacctc	tccccaccct	ttagtgcgca	gtgggctgct	480
gcttcagtat	cctcccagct	cagttttatt	agatcaaagc	tgcccttggg	caccatgttg	540
gccacctcaa	tcaccagcca	aaatggtcgc	tttgtccacc	agaggtcaag	ccatctttct	600
ggcgctgtag	ttcccagctc	cttctagga	acaggaagtt	gatattgcca	tgggggaggt	660
ggcgggggtg	ggcgcgcacc	tcaatagttt	tactgtaaaa	gggaaatttg	aacaagaaca	720
acaacaaaaa	aaaaaaaaaa	acaaagaaaa	aaataaaaaa	ctttaaagt	tgaaaaaaaa	780
aaaaaaaaaa	aaaaaaagcg	gccgc				805

<210> 56

<211> 1407

<212> DNA

<213> Rattus norvegicus

<220>

<221> misc_feature

<222> (1)...(1407)

<223> n = A,T,C or G

<221> CDS

<222> (90)...(431)

<400> 56

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ctgtgggctc	tgacagcgct	gtggctaac	atg gca ccc	aaa aag aag act ctc		113
			Met Ala Pro	Lys Lys Lys Thr Leu		
			1	5		
aag aag aac aaa ccc gag atc aat gag atg acc atc atc gtg gaa gac						161
Lys Lys Asn Lys Pro Glu Ile Asn Glu Met Thr Ile Ile Val Glu Asp						
10	15	20				
agc ccc cta aac aag ctg aat gct cta aat ggg ctc ctg ggg gga gaa						209
Ser Pro Leu Asn Lys Leu Asn Ala Leu Asn Gly Leu Leu Gly Gly Glu						
25	30	35	40			
aac agc ctt agc tgt gtt tct ttc gaa cta aca gac act tct tat ggt						257
Asn Ser Leu Ser Cys Val Ser Phe Glu Leu Thr Asp Thr Ser Tyr Gly						
45	50	55				
ccc aac ctc ctg gaa ggt tta agt aaa atg cgt caa gag agc ttt cta						305

Pro Asn Leu Leu Glu Gly Leu Ser Lys Met Arg Gln Glu Ser Phe Leu
60 65 70

tgt gac ttg gtc atc ggt cca aaa cca agt cct ttg atg tcc ata agt 353
Cys Asp Leu Val Ile Gly Pro Lys Pro Ser Pro Leu Met Ser Ile Ser
75 80 85

caa gtg atg gct tcc tgc agc gag tct tct ata ata tcc tta aaa cga 401
Gln Val Met Ala Ser Cys Ser Glu Ser Ser Ile Ile Ser Leu Lys Arg
90 95 100

tcc atc gac aaa aag ggt aga cct caa tga tatcgnccct ttagggctac 451
Ser Ile Asp Lys Lys Gly Arg Pro Gln *
105 110

caccgtgata gcatatgcat acacnggaaa gctgccccttt ctttatacac aataaggaag 511
catcattttct gctgctgtgt acctccagat ccacactctt gtgaagatgt gcagcgactt 571
tctgatccga gagatcagtg ttgagaactg catgtatgtt gttaacatgg ctgaaacata 631
ctgcttgaaa aatgcgaaaag caacqgcccc gaaattttatc cgggataact tcatatgaatt 691
tgccgactcc gaacaattta tgaagctgac gtttgaacag attaatagagc ttctcataga 751
tgatgacttg cagttgcctt ctgagctggt agcattccag attgcaatga aatggataga 811
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catctctgca caagacctgg tcaattacgt tcaaaccgta ccgagaatga tgcaagacgc 931
tgattgtcat aaactgcttg tggatgctat gaactaccac ttactacctt atcatcaaaa 991
cacgttgcaa tctaggcgga caagaattag aggcggctgc cgggttctga tcaactgtcgg 1051
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aatggatgga gcaagcttac agaaatgccca gccaaagagtt tcaatcagtg tgtggctgtg 1171
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aagcatgcag tcagcaattt ctgcaggtac cgatccccgc ttcaacacgt ggatccacct 1291
gggcagcatg aaccagaagc gcacgcactt cagcctgagc gtgttcaacg ggctcctgta 1351
cgccggtggn gggcnccagt gnganggata tctgcagaat tcggctagcc gaattc 1407

<210> 57
<211> 2004
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(2004)
<223> n = A,T,C or G

<221> CDS
<222> (88)...(432)

<400> 57
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ctgtacccca gagccccgac tagcagt atg ccg gga gcg cca ggg cct ggg cct 114
Met Pro Gly Ala Pro Gly Pro Gly Pro
1 5

gag gtg gct gca gcc ttt gag gaa cgg ttg agt cag gca cta cag gaa 162
Glu Val Ala Ala Ala Phe Glu Glu Arg Leu Ser Gln Ala Leu Gln Glu
10 15 20 25

ctg cag gca gtg gct gaa gca ggc cgg tca gcg gtg acc cag gca gct 210
Leu Gln Ala Val Ala Glu Ala Gly Arg Ser Ala Val Thr Gln Ala Ala

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	30	35	40	
gat gca gcc cta gcc act gta gag cca gtg get cag gca tct gaa gag				258
Asp Ala Ala Leu Ala Thr Val Glu Pro Val Ala Gln Ala Ser Glu Glu				
	45	50	55	
ctt cgg gcc gag aca gca gcc ctg agc cgg cgg ctg gat gcc ctg acc				306
Leu Arg Ala Glu Thr Ala Ala Leu Ser Arg Arg Leu Asp Ala Leu Thr				
	60	65	70	
agg cag gtg gag gtg ctg agc cta cgg ctg ggt gtt cca ctc gtg ccg				354
Arg Gln Val Glu Val Leu Ser Leu Arg Leu Gly Val Pro Leu Val Pro				
	75	80	85	
gac ctg gag tcc gag cta gag ccc agc gag ctg ttg ctg gct gct gcc				402
Asp Leu Glu Ser Glu Leu Glu Pro Ser Glu Leu Leu Leu Ala Ala Ala				
	90	95	100	105
gac cct gag gcc ctc ttc cag gca agc tga ggatgctggg acccccgtgg				452
Asp Pro Glu Ala Leu Phe Gln Ala Ser *				
	110			
ccaccgcct gccttttagca cccgccgcag ctcttctgcg ggcccctctc gaagcagcag				512
tctcatggag cccgatccag cagagccccc ctctgccaca gtggaagcag ctaatggaac				572
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ggagctgatg gccattgagg acgaaggaat cctggacaag atgctggacc aggctacgaa				692
ctttgaagag cggaagctca tccgggctgc gctccgtgag ctccgacaaa gaaagagaga				752
ccagagggac aaggaacgag aacggcggct acgagaggca cgggcccggc caggcgagag				812
ccgaagcaat atggctacta cagagaccac caccaggcac aagccagagg gcggctgatg				872
gctcggcggg cagcacagtt accaaaactg agcgggtcgt ccactccaat gacggcacgc				932
agactgcgcg caccaccaca gtggagtcga gtttcgtgag gcgctcggag aatggcagca				992
gcaagcaagc agcagacca cggtcctaaac caagacctt tctctctcct ctctctcctc				1052
caaaaaaatg ggcagtatct tgcaccgaga ggaccaaacc agctcacgtt ctggcagcct				1112
ggcgccctc gaaaaacgcc aggcagagaa gaagaaaag ctcataagag cacagagtct				1172
gcccagacc taagcgtccc aagcacgcaa ggccatgatt gagaaactag agaagggaag				1232
ctcttcgggc agtcctggca caccgcgtac agcggtagag cgttctacca gcttcggagt				1292
ccccaacgcc aacagcatca agcagatggt gctggactgg tgccgagcca agaccgtgg				1352
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gccctggtgc acaatttctt ccctgaggct tttgactatg gacagcttag cccacaaaac				1472
cggcgccaga actttgaaat ggctttctca tctgctgaga cccatgcgga ctgcccgcag				1532
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tacatccagg agttctaccg ctgtctggtc cagaaggggc tggtaaaaaac caaaaagtcc				1652
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gacatgatga tcatgggcaa aaagccagac cctaagtgcg tcttcaccta cgtgcaatcg				1772
ctgtacaacc acctgcggcg ccatgagctg cgctgcgcg gcaagaatgt ctagccactg				1832
ctcacaccgc ctgcgctgca ggctgctgtc ccacgcccc aacaccggnc cctncagtn				1892
gctgccact gntgccgtn tgtcgaaaca cctntcccct tgtcacacgc agngntttga				1952
taaattattt gntttnaaca aaaaaaaaaa aaaaaaaaaa aaaagcggcc gc				2004
<210>	58			
<211>	881			
<212>	DNA			
<213>	Rattus norvegicus			
<220>				
<221>	CDS			
<222>	(84) ... (377)			

<400> 58

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Met Ala Asn Glu Ala Asn Pro Cys Pro Cys
1 5 10

gac att ggt cac agg cta gac tat ggt ggc atg ggc cag gaa gtt cag 161
Asp Ile Gly His Arg Leu Asp Tyr Gly Gly Met Gly Gln Glu Val Gln
15 20 25

gtt gag cac atc aag gca tat gtc acc cgg tcc cct gtg gat gca ggc 209
Val Glu His Ile Lys Ala Tyr Val Thr Arg Ser Pro Val Asp Ala Gly
30 35 40

aaa gct gtg att gtt gtc cag gat ata ttt ggc tgg cag ctg tcc aac 257
Lys Ala Val Ile Val Val Gln Asp Ile Phe Gly Trp Gln Leu Ser Asn
45 50 55

acc agg tat atg gct gac atg att gct gga aat gga tac aca act att 305
Thr Arg Tyr Met Ala Asp Met Ile Ala Gly Asn Gly Tyr Thr Thr Ile
60 65 70

gcc cag act tct ttg tgg gtc aag agc cat ggg acc cgg ctg gtg att 353
Ala Gln Thr Ser Leu Trp Val Lys Ser His Gly Thr Arg Leu Val Ile
75 80 85 90

ggt cca cct tcc ctg agt ggt tga aatcaagaaa tgccagaaaa atcaaccgag 407
Gly Pro Pro Ser Leu Ser Gly *
95

aggttgatgc tgtcttgagg tatctgaaac aacagtgtca tgcccagaag attggcattg 467
tgggcttctg ctgggggggt attgtggtgc accacgtgat gacgacatat ccagaagtca 527
gagcgggggt gtctgtctat ggtatcatca gagattctga agatgtttat aatttgaaga 587
acccaacggt gtttattctt gcagaaaatg atgctgtgat tccacttgag caggtttcta 647
tactgatcca gaagcttaaa gaacactgca tagttaatta ccaagttaag acattttctg 707
ggcaaactca tggctttgtg catcggaaga gagaagactg ctcccctgca gacaaaccct 767
acattgagga agcgaggagg aatctcatcg aatggctgaa caagtatatt taacagcact 827
caagcacaaa ttttgaataa ttaaattgac ccgaataatt aaattgaccc gaat 881

<210> 59

<211> 97

<212> PRT

<213> Rattus norvegicus

<400> 59

Met Ala Asn Glu Ala Asn Pro Cys Pro Cys Asp Ile Gly His Arg Leu
1 5 10 15
Asp Tyr Gly Gly Met Gly Gln Glu Val Gln Val Glu His Ile Lys Ala
20 25 30
Tyr Val Thr Arg Ser Pro Val Asp Ala Gly Lys Ala Val Ile Val Val
35 40 45
Gln Asp Ile Phe Gly Trp Gln Leu Ser Asn Thr Arg Tyr Met Ala Asp
50 55 60
Met Ile Ala Gly Asn Gly Tyr Thr Thr Ile Ala Gln Thr Ser Leu Trp
65 70 75 80
Val Lys Ser His Gly Thr Arg Leu Val Ile Gly Pro Pro Ser Leu Ser

Gly

<210> 60
 <211> 245
 <212> PRT
 <213> Rattus norvegicus

<400> 60

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Leu	Arg	Pro	Trp	Lys	Ile	Val	Cys	Gly	Asp	Ser	Tyr	Arg	Lys	Gln	Thr
		20						25					30		
Gly	Arg	Leu	Lys	Gln	Thr	Arg	Ser	Lys	Val	Arg	Cys	Arg	Cys	His	Gly
		35					40				45				
Gln	Thr	Leu	Gly	Glu	Ala	Trp	Ala	Thr	Leu	Val	Phe	Met	Leu	Glu	Arg
	50					55					60				
Arg	Arg	Glu	Leu	Leu	Gly	Leu	Thr	Ser	Glu	Phe	Phe	Gln	Ser	Ala	Leu
65					70				75					80	
Glu	Phe	Ala	Ile	Lys	Ile	Asp	Gln	Ala	Glu	Asp	Phe	Leu	Gln	Asn	Pro
				85					90					95	
His	Glu	Phe	Glu	Ser	Ala	Glu	Ala	Leu	Gln	Ser	Leu	Leu	Leu	Leu	His
			100					105					110		
Asp	Arg	His	Ala	Lys	Glu	Leu	Leu	Glu	Arg	Ser	Leu	Val	Leu	Leu	Asn
		115					120					125			
Lys	Ser	Gln	Gln	Leu	Thr	Asp	Phe	Ile	Glu	Lys	Phe	Lys	Cys	Asp	Gly
	130					135					140				
Ser	Pro	Val	Asn	Ser	Glu	Leu	Ile	Gln	Gly	Ala	Gln	Ser	Ser	Cys	Leu
145					150					155				160	
Lys	Ile	Asp	Ser	Leu	Leu	Glu	Leu	Leu	Gln	Asp	Arg	Arg	Arg	Gln	Leu
			165						170					175	
Asp	Lys	His	Leu	Gln	Gln	Gln	Arg	Gln	Glu	Leu	Ser	Gln	Val	Leu	Gln
		180						185					190		
Leu	Cys	Leu	Trp	Asp	Gln	Gln	Glu	Ser	Gln	Val	Ser	Cys	Trp	Phe	Gln
		195					200					205			
Lys	Thr	Ile	Arg	Asp	Leu	Gln	Glu	Gln	Ser	Leu	Gly	Ser	Ser	Leu	Ser
	210					215					220				
Asp	Asn	Lys	Glu	Leu	Ile	Arg	Lys	His	Glu	Asp	Leu	Pro	Ser	Lys	Gln
225					230					235					240
Arg	Val	Pro	Ala	Val											
				245											

<210> 65
 <211> 142
 <212> PRT
 <213> Rattus norvegicus

<220>

<221> VARIANT

<222> (1)...(142)

<223> Xaa = Any Amino Acid

<400> 65

Met	Thr	Glu	Ser	Val	Val	Cys	Thr	Gly	Ala	Val	Ser	Thr	Val	Lys	Glu
1				5				10						15	
Val	Trp	Glu	Glu	Arg	Ile	Lys	Lys	His	His	Glu	Asp	Val	Lys	Arg	Glu

			20					25					30				
Lys	Glu	Phe	Gln	Gln	Lys	Leu	Val	Arg	Ile	Trp	Glu	Asp	Arg	Val	Ser		
		35					40					45					
Leu	Thr	Lys	Leu	Lys	Glu	Lys	Val	Thr	Arg	Glu	Asp	Gly	Arg	Ile	Ile		
	50					55					60						
Leu	Arg	Ile	Glu	Lys	Glu	Glu	Trp	Lys	Thr	Leu	Pro	Ser	Ser	Leu	Leu		
65					70				75					80			
Lys	Leu	Asn	Gln	Leu	Gln	Glu	Trp	Gln	Leu	His	Arg	Thr	Gly	Leu	Leu		
			85					90					95				
Lys	Ile	Pro	Glu	Phe	Ile	Gly	Arg	Phe	Gln	His	Leu	Ile	Gly	Leu	Asp		
		100					105					110					
Leu	Ser	Arg	Asn	Thr	Ile	Ser	Glu	Ile	Pro	Pro	Arg	His	Trp	Thr	Xaa		
		115					120					125					
His	Leu	Asp	Phe	Lys	Glu	Leu	Ile	Leu	Ser	Tyr	Thr	Lys	Ser				
	130					135					140						

<210> 69
 <211> 49
 <212> PRT
 <213> Rattus norvegicus

Met	Ser	Ser	Ser	His	Leu	Arg	Thr	Arg	Ser	Ala	Arg	Thr	Pro	Gly	Lys		
1				5				10					15				
Ile	Pro	Leu	Ile	Pro	Ile	Val	Gly	Asn	Met	Leu	Pro	Ala	Val	Gly	His		
			20				25					30					
Leu	Ile	Tyr	Thr	Phe	Ser	Gly	Leu	Thr	His	Tyr	Pro	Lys	Asn	Leu	Leu		
		35					40					45					
Thr																	

<210> 71
 <211> 70
 <212> PRT
 <213> Rattus norvegicus

Met	Glu	Ile	Asn	Glu	Lys	Leu	Ala	Asp	Ala	Lys	Ser	Glu	Ala	Ala	Met		
1			5				10					15					
Glu	Glu	Val	Glu	Ala	Thr	Val	Arg	Ala	Lys	Gln	Lys	Glu	Phe	Thr	Asp		
		20					25					30					
Asn	Ile	Asn	Arg	Ala	Phe	Glu	Gln	Gly	Asp	Phe	Glu	Lys	Ala	Lys	Glu		
		35				40					45						
Leu	Leu	Thr	Lys	Met	Arg	Tyr	Phe	Ser	Asn	Ile	Glu	Glu	Lys	Ile	Lys		
	50				55						60						
Leu	Ser	Lys	Asn	Pro	Leu												
65					70												

<210> 74
 <211> 113
 <212> PRT
 <213> Rattus norvegicus

Met	Ala	Pro	Lys	Lys	Lys	Thr	Leu	Lys	Lys	Asn	Lys	Pro	Glu	Ile	Asn		
1			5				10					15					
Glu	Met	Thr	Ile	Ile	Val	Glu	Asp	Ser	Pro	Leu	Asn	Lys	Leu	Asn	Ala		

20 25 30
 Leu Asn Gly Leu Leu Gly Gly Glu Asn Ser Leu Ser Cys Val Ser Phe
 35 40 45
 Glu Leu Thr Asp Thr Ser Tyr Gly Pro Asn Leu Leu Glu Gly Leu Ser
 50 55 60
 Lys Met Arg Gln Glu Ser Phe Leu Cys Asp Leu Val Ile Gly Pro Lys
 65 70 75 80
 Pro Ser Pro Leu Met Ser Ile Ser Gln Val Met Ala Ser Cys Ser Glu
 85 90 95
 Ser Ser Ile Ile Ser Leu Lys Arg Ser Ile Asp Lys Lys Gly Arg Pro
 100 105 110
 Gln

<210> 76
 <211> 114
 <212> PRT
 <213> Rattus norvegicus

<400> 76
 Met Pro Gly Ala Pro Gly Pro Gly Pro Glu Val Ala Ala Ala Phe Glu
 1 5 10 15
 Glu Arg Leu Ser Gln Ala Leu Gln Glu Leu Gln Ala Val Ala Glu Ala
 20 25 30
 Gly Arg Ser Ala Val Thr Gln Ala Ala Asp Ala Ala Leu Ala Thr Val
 35 40 45
 Glu Pro Val Ala Gln Ala Ser Glu Glu Leu Arg Ala Glu Thr Ala Ala
 50 55 60
 Leu Ser Arg Arg Leu Asp Ala Leu Thr Arg Gln Val Glu Val Leu Ser
 65 70 75 80
 Leu Arg Leu Gly Val Pro Leu Val Pro Asp Leu Glu Ser Glu Leu Glu
 85 90 95
 Pro Ser Glu Leu Leu Ala Ala Ala Asp Pro Glu Ala Leu Phe Gln
 100 105 110
 Ala Ser

<210> 77
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer specific for vector to produce "Driver
 DNA".

<400> 77
 cgtatgttgt gtggaattgt gagcg

25

<210> 78
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer specific for vector to produce "Driver
 DNA".

<400> 78
gatgtgctgc aaggcgatta agttg

25

<210> 79
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligos corresponding to polylinker sequence.

<400> 79
gccgccagtg tgctggaatt cggctagc

28

<210> 80
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligos corresponding to polylinker sequence.

<400> 80
cgaattctgc agatatccat cacactgg

28

<210> 81
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligos corresponding to polylinker sequence.

<400> 81
ctagagggcc caattcgccc tatag

25

<210> 82
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligos corresponding to polylinker sequence.

<400> 82
tgagtcgtat tacaattcac tggcc

25

<210> 83
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligos corresponding to polylinker sequence.

<400> 83

20

<211> 18

<213> Artificial Sequence

<223> Oligos corresponding to polylinker sequence.

ttttttttttt tttttttttt

18

[illegible]